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ABSTRACT

This annual report contains summaries of more than 1,200 reading research studies that appeared in print between July 1, 1979 and June 30, 1980. The summaries are arranged into six major categories. The first category lists other general bibliographies offering summaries of reading research, while the second category presents summaries of studies concerned with teacher preparation and practice and the third category contains summaries of reports dealing with the sociology of reading. The majority of reports appear in the fourth and fifth categories, which deal with the physiology and psychology of reading and with the teaching of reading, respectively. Reports appearing in the final category cover the reading of atypical learners. (FL)

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Annual

*Summary of investigations
relating to reading
July 1, 1979 to June 30, 1980*

**SAM WEINTRAUB, HELEN K. SMITH
NANCY L. ROSER, WALTER R. HILL
and MICHAEL W. KIBBY**

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Summary of investigations relating to reading July 1, 1979 to June 30, 1980

SAM WEINTRAUB, HELEN K. SMITH, NANCY L. ROSEN,
WALTER R. HILL, and MICHAEL W. KIBBY

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Inflation in research

The Summary of Research in Reading last year contained a dramatic increase in the number of published reports in comparison to previous years. The question remains as to whether the sharp rise in published reading research is due to some unexplained fluke or marks a real upswing in the quantity of research being conducted and reported. The total entries in this year's summary is about 1,200, a slight increase over the number reported last year but double the number appearing in the years immediately prior to 1979. The table below rather vividly portrays the increase in published research in reading over two decades. Selected years only are presented.

Table 1

Number of entries in recent annual summaries

Year	Number of entries
1960	103
1965	236
1970	341
1975	558
1976	599
1977	638
1978	554
1979	1100*
1980	1200*

*approximate

Although two years in a row do not constitute a trend, the continued increase certainly strengthens the support for the thesis that the rise is a real one and not merely happenstance. One can certainly ask if inflation has hit the scholarly world of research.

In last year's editorial several hypotheses were proposed about the possible factors behind this increase. The pressure on younger faculty members to publish in order to attain tenure and promotion is a very real one. Getting into print is an absolute "must" at many universities. It is also probable that a fair amount of the increase may be attributed to productive groups such as the Center at Illinois where research is the major responsibility of personnel and financially supported. However, these remain only hypotheses until future hard data are collected to support or refute them. What is fact or true is that there has been a remarkable increase in the number of published research reports appearing in reading in the past two years. The important questions relate to whether the quality of that research is improving or whether it is, rather, growing poorer.* The answer is "both."

*The term "poorer" includes in its definition such factors as inappropriate design, lack of significance in the topic, problems in data and process, inappropriate assessment instruments, improper interpretation, etc.

It is not now, nor has it ever been, the purpose of the summary to present evaluations of the research appearing each year. The summary has always been, and, in this author's opinion, should continue to be a repository for all that exists. It is a reference source much like *Psychological Abstracts*. The individual user of the research must make the final determination as to the merit of a given study. For the authors of the summary to do so would be to impose their arbitrary standards upon the professional literature. Even among the five summary authors, there might well be sharp disagreements as to the worth of a particular report. Nevertheless, in reading, abstracting, and editing materials, general impressions about the quality of the research can be formed. Even when the reading and editing is hurriedly done under time constraints, it is impossible not to note those studies that are intriguing or those that are particularly weak. These general conceptions may not be totally accurate, but they do reflect the impressions obtained in writing and editing, and it is these that I would like to share with the users of the summary.

Why?

First, there is much weak research published. Not only is it published, but, if it reflects someone's point of view or biases, too frequently it will be cited as support for a given approach or a particular theory or model. Not infrequently, it becomes "truth." If the findings of a study are appealing or support one's beliefs, individuals will use the findings and conclusions regardless of how inadequately the research may have been done. To reiterate, poor quality published research abounds. It can be found in the pages of almost any journal, no matter how sacrosanct the reputation of that periodical. How does such questionable research manage to get into print? Who's responsible? How can the profession maintain quality control? Should we even attempt to?

Many journals are refereed. Again, although I have not done a careful analysis and cannot support my thoughts with data, it is my general impression that the research appearing in refereed journals is of better quality than that published in non-refereed journals. Even so, refereed journals are certainly not without numerous examples of highly questionable, highly suspect research. How does it get there and who's to blame?

Ultimately, the appearance of an article in a given journal is the responsibility of the editor(s) of that journal. In refereed journals, the responsibility is shared by reviewers and/or advisory board members. If the individuals who review manuscripts are not competent to read research critically, if they react to a topic rather than to the treatment of that topic and to the merit of it, or if they have relatively limited knowledge of a given area, then they may be inappropriate or inadequate reviewers for a given paper. It is in the review process that one dimension of quality control probably falls short.

While journal editors and manuscript reviewers share partial responsibility for the quality of the published research, the educational community as a whole must accept some responsibility also. The generally docile and accepting nature of readers of educational journals is not conducive to improving the quality of research. If more consumers actively participated in the reading process by writing to authors and editors when they came across poorly conceived (or outstandingly well done) research, then the standards might become more

rigorous and more stringent. Active, involved, critical readers would ultimately aid immensely in improving the quality of published research.

Only three probably contributing factors (editors, reviewers, readers) have been cited. Obviously, the problem is complex and there are many more elements involved. The doctoral level preparation for conducting research and the quality of individuals admitted to and graduated from doctoral programs may well be additional factors. The fact that we do not police our profession very well may be another related problem.

If stricter quality controls were imposed, how much research would be published? A lot less! If the review process is inadequate in promoting high quality reports, what procedures should we then employ? There are no simple solutions. In theory, the review process seems both an appropriate and an adequate one; in practice, like many worthwhile ideas, it is far from infallible. I don't have the answer to a better procedure, but I would like to see an upgrading in the quality control exercised. Perhaps some inservice work with advisory board members or reviewers for manuscripts would help, although I am skeptical as to whether such a procedure could even be implemented. The exchanging of comments by reviewers of the same manuscript, a procedure employed by the *Reading Research Quarterly*, might aid in the growth of some individual reviewers.

Another possibility might be some open forum or interaction among researchers themselves. If investigators were able (and willing) to present their ideas to peers for reaction at the proposal stage, the resultant feedback might be another opportunity to improve quality. In earlier years, the National Conference on Research in English employed such a strategy at its annual meetings. Some graduate programs already require doctoral students to present their dissertation ideas to fellow students at the proposal stage. When implemented at the post doctoral level, such a procedure would inevitably delay the time period for a project getting off the ground, but it might well be a small price to pay for a superior product.

Last, better doctoral level preparation in conducting research, in reading research critically, and in understanding research design might improve quality. A practicum in which doctoral students first engaged in designing, implementing, analyzing the data for, and reporting a group research project, then worked under the close supervision of a faculty member in conducting their own small scale study prior to the dissertation stage might be helpful. Some graduate programs already follow similar procedures. It would be useful to have follow-up evaluations on their students.

The improvement of research is a most important focus for reading researchers. The continued publishing of inadequate or weak research has several deleterious side effects. First, it leads to a lack of respect for research in the entire field. Reading becomes synonymous with lack of scholarship. As a result, some individuals automatically reject all research as inadequate because some is. Likewise, it causes other, possibly less critical readers to assume that because something is published, it must be dependable. Sometimes such less insightful readers may then implement findings as valid and useful. They use the research to "prove" a point. Thus, quality control is essential for the upgrading of the practical aspects of the profession.

It is very easy to take a critical stance and even easier to do so when one writes in general terms. Lest the user of the summary obtain the impression that there is no worthwhile or valid research reported, let me clearly state that much

that is scholarly, important, inventive, rigorous and intriguing also appears in the published literature. Several impressions seem particularly noteworthy to share with readers.

First, there seems to be some increase in the number of research reports that are classroom oriented. Those falling into this category do not constitute a groundswell, but a beginning can be noted. By classroom oriented, I do not mean quickly done studies where the researcher goes into a school, administers a test or two, and then heralds the grandiose findings to a breathlessly awaiting educational community. Rather, the reference is to studiously, carefully conducted studies, frequently of an observational nature, which begin to take a serious look at the classroom learning environment, the teacher, the learner, and the interaction among them. These are not interaction analysis studies (although they may be); they tend rather to be descriptive, informational, evaluative reports of life in classrooms. Sometimes they take a broad sweep at what is occurring. Frequently, they are unique, intriguing, and highly promising in terms of the possibilities for improving instructional practices.

Second, this year and for the past several years, it is possible to note an increase (or so it seems) in the number of reports dealing with intensive studies of one individual or small groups of individuals. An N of 1 is no longer unusual or suspect. Perhaps we have come to a point in our development where we are able to accept as legitimate scholarly work that consists of in-depth analyses of one or a few individuals. Both Freud and Piaget would be pleased with this trend. Obviously, research employing small sample sizes has been done for some time, but there does seem to be a slight increase in the frequency with which such studies are beginning to appear. Using a small sample is not, of course, in itself an indication of rigor or scholarship. Intensive case studies focusing on one individual can be inadequate. The point is that we are beginning to accept scholarly research in this vein as respectable.

Third, here and there one notes a study which questions one of our "sacred cows" in reading or which looks at what everyone has always "known" to be true and holds it up for close inspection. Occasionally there appears a study which attempts to pinpoint the fact that we are relying on visceral feelings in an area rather than on hard data and then seeks to supply the missing data. One can only encourage such efforts.

The viewpoints expressed in this short editorial, quite obviously, reflect the biases and tunnel vision of one person only and should be regarded in that light. The increase in published research in the past two years, thus, has both advantages and disadvantages. The quality produced varies as markedly as it ever has. There is both an increase in the number of weak studies published and also an increase in the amount of excellent research reported. Whether the proportion of questionable to excellent has changed can only be determined by a careful analysis. Suffice it to say that the inflationary trend, like most things, is both better and worse. What we need is more of the good. This statement attempted to suggest several ideas that might result in the improvement of quality control. Implementation must be in the hands of those in the field.

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Summary of investigations relating to reading

*July 1, 1979 to June 30, 1980**

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SUMMARIZES APPROXIMATELY 1200 reports of reading research published between July 1, 1979, and June 30, 1980. The research studies are categorized into six major areas, five of which have been further subcategorized. The majority of studies reported were classified into the Physiology and Psychology of Reading area. Large subdivisions under that major category include Experiments in Learning, Vocabulary and Word Identification, and Factors Related to Reading Disability. Large groupings of studies in the Sociology of reading are concerned with the content analysis of printed materials and the use of mass media. Under the Teaching of Reading category, the subcategory Testing remains the largest. A listing of other general bibliographies of reading research appears as the first major category of the present summary.

*The authors are indebted to Robert J. Cowan, a graduate student at the State University of New York at Buffalo, for the major work of identifying articles. Primary financial support for the annual summary is provided by the International Reading Association. Additional funding is supplied by the Alvina Treut Burrows Institute, Inc. A particular note of appreciation goes to Julia Schneider, a very special lady who serves as the secretary for the summary.

Sommaire des investigations au sujet de la lecture du premier juillet 1979 au 30 juin 1980

DANS CE SOMMAIRE SONT RÉSUMÉS ENVIRON 1200 COMPTES DE RECHERCHE dans le domaine de la lecture publiés entre le premier juillet 1979 et le 30 juin 1980. Des études se rangent en 6 catégories principales, dont cinq se sont divisées en catégories secondaires. La plupart des études était classée dans la section intitulée Physiologie et Psychologie de la Lecture. Les subdivisions grandes dans cette catégorie comprennent les suivantes: Expériences d'Apprentissage, Identification de Mots et de Vocabulaire, et Éléments d'Incapacité d'Apprendre la Lecture. Les vastes groupements des études sous le rubrique Sociologie de la Lecture analysent le contenu des imprimés et comment se servir des média. La subdivision Testing reste la classification la plus grande dans la catégorie Enseignement de la Lecture. Le premier classement principal de ce sommaire-ci est la liste des autres bibliographies générales concernant la recherche dans le domaine de la lecture.

Resumen de investigaciones relacionadas con la lectura del primero de julio de 1979 al 30 de junio de 1980.

SE RESUMEN EN ESTE ANUARIO APROXIMADAMENTE 1200 INFORMES DE investigaciones relacionadas con la lectura, publicados entre el primero de julio de 1979 y el 30 de junio de 1980. Las investigaciones se ordenan por 6 categorías principales, de que se han divididas cinco en categorías secundarias. Se clasificó la mayoría de los informes en la sección titulada Fisiología y Psicología de la Lectura. Las subdivisiones grandes de esta categoría comprenden las siguientes: Experiencias de Aprendizaje, Identificación de Palabras y de Vocabulario, y Elementos de la Incapacidad de Aprender a Leer. Las agrupaciones grandes de estudios bajo el rubro Sociología de la Lectura hacen análisis del contenido de los impresos y como servirse de los medios de comunicación. La división de Exámenes sigue siendo la más grande en la categoría de Enseñanza de la Lectura. La primera categoría principal de este anuario es una lista de otras bibliografías generales sobre la investigación relacionada con la lectura.

I. Summaries of reading research

Only general summaries of reading research have been placed in this category. Summaries of specific research areas have been placed in the appropriate subcategory.

BENTLEY, DIANA, & GOODACRE, ELIZABETH J. *British register of reading research, No. 4*. Reading, Berks.: University of Reading School of Education, Summer 1979.

Presents a register of on going research and completed research in England.

GOODACRE, ELIZABETH J. Reading research in Britain-1977. *Reading*, April 1978, 12, 6-14.

Abstracts reading research published in Great Britain under the following headings: Reading tests and standards, Dyslexia and specific reading retardation, Remedial reading and provision, Reading development, and Reading materials.

GOODACRE, ELIZABETH J. *Reading Research Review 1978*. Reading, Berks.: University of Reading, 1978.

Reviews and categorizes reading research in Britain for the year 1978.

MALMQUIST, EVE. Reading research and the teaching of reading in Sweden. In Dina Feitelson (Ed.) *Cross-cultural perspectives on reading and reading research*. Newark, Delaware: International Reading Association, 1978. pp. 133-143.

Identifies the major reading research areas in Sweden and summarizes the findings in each. Areas covered include: beginning reading instruction, reading disabilities, preschool education, reading readiness, language development, reading disabilities, and functional reading ability.

WEINTRAUB, SAM; SMITH, HELEN K.; ROSER, NANCY L.; ROWLS, MICHAEL; & HILL, WALTER R. *Summary of investigations relating to reading July 1, 1978 to June 30, 1979*. Newark, Delaware: International Reading Association, 1980.

Annotates over 1100 published research reports in reading. The research is categorized under six major headings with additional subcategories.

II. Teacher preparation and practice

II-1. Behavior, performances, practices, effectiveness

ARCHER, PETER. Teacher expectation as a determinant of reading performance. In Vincent Greaney (Ed.) *Studies in Reading*. Dublin: The Educational Co., 1977, pp. 105-111.

Presents a review of the research on teacher expectations with particular reference to reading. The author concluded that the research supported the notion that expectation effects might be functioning in the teaching of reading.

BASSEY, MICHAEL. *Nine hundred primary school teachers*. Atlantic Highlands, New Jersey: Humanities Press, 1978.

Describes the major practices of teachers in 114 Nottinghamshire primary schools. Data were based on interviews of approximately an hour each with 893 teachers. The information obtained has been grouped and reported for infant

teachers, primary teachers, and headteachers. Of the 27½ hours per week spent in school, 38% of junior teachers (children aged 7 to 11) reported that six and one-quarter to eight hours per week were spent on language activities including reading. The average amount of time spent on language activities was seven hours per week. Of the time spent in silent reading, 46% reported that most of the time was spent in a general reading scheme (basal program). Among infant school teachers (ages 5 to 7) over 75% reported that children read aloud to an adult at least three days a week.

CASHDAN, ASHER. Nursery teachers' behaviour: some implications for beginning reading. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977, pp. 159-164.

Describes an observational study designed to explore the verbal and non-verbal behaviors of 25 teachers and 200 children in ten Outer London Borough nursery schools. Over a four-term period, researchers collected data on teacher styles and whether children played and learned differently according to the predominant style of their teacher. During the second phase of the study, half the teachers were taught a set of intervention strategies for use at the time of this report. However, data from a pilot study along with the author's intuitive feelings suggested that teachers do not hold sustained conversations with children in their groups. Implications for reading instruction are suggested.

ALLINGTON, R. L. Teacher interruption behaviors during primary-grade oral reading. *Journal of Educational Psychology*, June 1980, 72, 371-377.

Examines the verbal behaviors of 20 primary-grade teachers following children's oral reading errors in order to determine whether the frequency and nature of teacher interruptions systematically differed for high- and low-ability readers. A comparison of audiotape recordings of instructional sessions with the students' actual reading material yielded the oral reading errors. Teacher interruptions of both high and low groups of readers were categorized by the point (timing) and direction of interruption. Results indicated that teachers are most likely to interrupt poor readers who err than good readers. Further analyses revealed that good readers were more often directed to semantic and syntactic information, while poor readers either had their attention directed to graphemic or phenemic characteristics of the target word or the word was pronounced for them.

LEINHARDT, GAEA; SEEWALD, ANDREA MAR; & ENGEL, MARY. Learning what's taught; sex differences in instruction. *Journal of Educational Psychology*, August 1979, 71, 432-439.

Investigates teacher interactions of 33 teachers with second-grade students during reading and mathematics instruction in order to determine why boys and girls differ in performance. Teacher interactions were coded noting the sex of the student being instructed, and the subject area in which instructional behavior occurred. Categories of teacher behavior were grouped to form four variables: frequency of academic contacts, frequency of management contacts, percentage of academic contacts, and instructional time. Regression analyses were performed to note if differences in treatment related to differences in outcome. The *Large-Thorndike Cognitive Abilities Test* and the total reading and total math scores on the *Metropolitan Achievement Tests* were utilized. Results revealed that teachers made more academic contacts with girls in reading and with boys in math; girls received more instructional time in reading, boys in math; teachers spent relatively more cognitive time with girls in reading and boys in math; teachers made consistently more mana-

gerial contacts with boys than girls; and, although there were no differences initially in abilities, sex differences were found in end-of-year reading achievement.

RUPLEY, WILLIAM H., & MCNAMARA, JAMES F. Effects of instructional emphasis and pupil engaged time reading achievement. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading Research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, pp. 199-203.

Studies the difference between 27 third and 31 sixth grade teachers' reading instruction process variables and the relationships between selected pupil variables and reading achievement. Teachers were assigned to one of five success status categories based on the pattern of mean reading achievement levels recorded for three class years (1974, 1976, and 1978). A survey test of teacher emphases and practices, the *Survey of Teacher Emphases and Practices in Reading Instruction*, yielded self-estimates of 1) amount of instructional emphasis given to eight components of reading program and 2) the use of selected instructional practices in teaching developmental reading. Analyses of variance of mean percentage of time that pupils were engaged in various reading materials revealed no significant differences for either grade across the success status categories. At the third grade level, significantly more time was spent in independent reading and individual instruction. A significant difference at the sixth grade level was found for individual instruction.

SAGER, CAROL. *Secondary reading practices in New England: results of a six-state survey*. Wilmington, Massachusetts: New England Reading Association, G & G Printing, 1980.

Reports results of a questionnaire survey of New England secondary school principals designed to gather such information as types of reading programs provided, involvement of content teachers in the teaching of reading, and the locus of authority for determining the need for program development in reading at the secondary level. In the six states surveyed, 581 of 821 forms were returned. Results are presented for the 151 Massachusetts respondents. Findings indicated that secondary school programs consist primarily of an elective course for the remedial reader. Fewer than one half of the schools provide inservice courses in reading for content area teachers. Secondary schools with reading programs differ markedly from those without programs in several areas, among them program leadership, number of certified reading teachers, and provision of inservice courses and feedback to content area teachers.

COLARUSSO, RONALD P.; MATHIS, GALE; & SHESSEL, DENA. Teacher effectiveness in identifying high-risk kindergarten children. *Journal of Learning Disabilities*, December 1979, 12, 684-686.

Examines the effectiveness of five Headstart teachers classified as paraprofessionals in identifying five-year-old children with potential learning problems. Teachers were directed to use classroom observation techniques and, after a one-week period, to identify children who demonstrated specific learning deficits. On the basis of referral forms completed by the teachers, 41 children of a total of 105 were referred for weaknesses in the following areas: perceptual-motor, language, speech, cognitive concepts, and social- and self-help. Following the referrals a battery of tests was administered to all the children (referred and unreferred). No group differences were found between groups for chronological age, auditory sequenced memory, and syntax and grammar. For six of the nine variables tested, the mean score of the nonreferred children was significantly higher. The results supported the conclusion that paraprofessional teachers with training in observation techniques could identify children lagging behind their peers.

SCHUBERT, DELWYN G. Teacher personality and children's reading. *Reading Improvement*, Spring 1978, 15, 74-77.

Discusses the research literature related to the effect of teacher personality on teaching effectiveness and subsequent learning by children. The author pointed out the implications of the research findings for teacher behavior.

GRUNDIN, HANS U. Reading schemes in the infant school. *Reading (UKRA)*, April 1980, 14, 5-13.

Submits a questionnaire to 1,400 British infant school heads requesting information about school size, socioeconomic characteristics, proportion of English as a second language for children, and the use of reading schemes in the school. Replies were received from 631 heads. Most schools use one principal reading scheme which is supplemented by a varying number of additional schemes. Of those responding, fewer than half were satisfied with the current main reading scheme, but most would not change because they have been unable to find better schemes. A major criticism of schemes in use was that they tend to have dull, uninteresting content and/or stilted, unnatural language. Characteristics of good reading schemes identified by 35% or more of respondents were interesting content; good, clear print; attractive illustrations; carefully graded vocabulary; and repetition of vocabulary.

II-2 Attitudes toward teaching reading

SADOSKI, MARK C. How secondary reading educators feel about reading: a survey report. *New England Reading Association Journal*, 1980, 15(1), 30-32.

Reports results of a survey designed to determine the major issues facing secondary reading educators in Connecticut. Forms were mailed to 85 individuals; 49 were returned. The representative sample was demographically weighted to poll all areas of the state and all levels of secondary reading instruction, including state education departments, consultants, university faculty, administrators, coordinators, and teachers. Of the 26 issues on the survey form, two concerns were widespread. They were: concern for inservice staff development and for content area programs. A second group of issues received lower ratings, but was nonetheless discernible: reader interests and attitudes, administrative support, coordination with elementary programs, study skills, integration of the language arts, proficiency testing, survival reading, and diagnostic and remedial programs.

EDWARDS, PATRICIA A. Have attitudinal surveys about reading been fair to the secondary teacher? *Journal of Reading*, October 1979, 23, 21-24.

Compares the results of a 1977 sample of 25 high school content area teachers obtained on three teacher attitude toward reading instruments: Smith-Otto, Flanagan, and Vaughan. Correlation coefficients among the three instruments were low, both negative and positive: Smith-Otto and Flanagan (-.22), Flanagan and Vaughan (-.40), and Smith-Otto and Vaughan (.12). Individual teacher consistency varied. Follow-up interviews revealed that teachers' responses in the interviews frequently differed from the responses to the instruments. In some instances, teachers felt the format and/or wording of the instruments elicited biased responses.

O'ROURKE, WILLIAM J. Research on the attitude of secondary teachers toward teaching reading in content classrooms. *Journal of Reading*, January 1980, 23, 337-339.

Describes the findings of the administration of Vaughan's *Scale to Measure Attitudes toward Reading in Content Classrooms* to a computer selected sample of junior and senior high teachers in each of the content areas of English, science, social studies, and math. The sample consisted of 480 teachers, 60 in each content area for both school levels. Results revealed statistically significant differences between content areas and prior professional training in reading, but not between school levels or teaching experience. Ratings based on the scores placed English teachers in the "positive" classification, and the other three areas in the "average" category. The majority of the sample (68%) had no prior professional course or inservice work in Reading. English teachers were more likely to have had prior reading preparation.

USOVA, GEORGE M. Comparing attitudes toward reading instruction among secondary principals, reading specialists, and content-area teachers. *Reading Improvement*, Summer 1979, 16, 169-174.

Surveys attitudes toward teaching reading of secondary principals, secondary reading specialists, and content-area teachers in half the secondary schools of Pennsylvania and West Virginia (N=256). The attitude scale was a 20-item Likert scale, designed to measure intensity of agreement or disagreement with statements of reading theory and practice. Principals, reading specialists, and content-area teachers differed significantly in their attitudes toward reading instruction. Reading specialists had significantly more favorable attitudes than either principals or teachers. Principals scored significantly more favorably than teachers. No significant differences in mean attitude score existed among urban, rural, or suburban areas.

SINGER, HARRY. Attitudes toward reading and learning from text. In Michael L. Kamil & Alden J. Moe (Eds.). *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, pp. 254-260.

Presents the results of the administration of the Otto-Smith *Attitudes Toward Teaching Reading in the Content Area* scale and a modified version of that scale to 49 inexperienced and 68 experienced secondary teachers. The modified scale changed the term "reading" to "learning from text" in order to disambiguate the term. When results of the two scales were compared, a more favorable response ($p < .0001$) occurred for both experienced and inexperienced teachers to the disambiguated version. The difference between experienced and inexperienced teachers was not statistically significant. Both experienced and inexperienced teachers had similar mean scores on the modified scale, but on the original scale the experienced teachers had a less positive attitude than the inexperienced.

JACKSON, JAMES E. Reading in the secondary school: a survey of teachers. *Journal of Reading*, December 1979, 23, 229-232.

Reports results of a survey of junior and senior high school teachers in four states to determine whether high school teachers teach reading. The 68 respondents, over half of whom were English and social studies teachers, answered questions relating to attitudes about reading instruction, reading skills being taught, and general reading skill instruction. Slightly more than half felt that they were not the best persons to teach the reading skills in the content areas, and that the job would be better done by special reading teachers. About two-thirds indicated that they considered themselves reading teachers. Four-fifths felt that all content area teachers should complete a course in secondary reading, while three-fourths stated that they would attend such a course if it were offered in their schools. In general, the respondents indicated that they were using techniques associated with reading development. English teachers more frequently introduced vocabulary and asked purpose-setting questions, while science and social studies teachers more frequently related content to students' lives.

CRISCUOLO, NICHOLAS P.; VACCA, RICHARD T.; & LaVORGNA, JOSEPH J. What reading strategies make sense to content area teachers? *Reading World*, March 1980, 19, 265-271.

Surveys the attitude of 50 content area teachers toward selected teaching strategies and reading skills. Teachers responded to situations presented by ranking them on a seven point scale in terms of how much sense the activity made to them. In the area of evaluation, 70% of teachers replying said that readability formulae made sense to them but only 30% said that cloze procedure made sense. Under comprehension, "distinguishing fact from opinion" made sense to 28% of the teachers while "following directions" and "sequence" made sense to 74%. Half or more of the teachers felt that teaching various decoding skills made no sense to them.

DOLAN, TERRY. Teachers' perception and children's reading in secondary schools. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977. Pp. 170-181.

Utilizes three sources of evidence in studying how teachers regard reading and how classroom practice reflects teachers' beliefs. Using questionnaires completed by 130 British secondary teachers and interview data, the study focussed on responses to how much reading teachers feel is involved in their subjects, the suitability of reading materials, and special problems in reading specific to their subject. Additional data were collected from observational visits. Secondary teachers felt that reading often played an important part in their lessons, with teachers of English and the humanities indicating that there is a considerable amount of reading in their subjects. Generally, teachers reported that it was not easy to find suitable reading material. The most pervasive problem referred to was the special terminology and vocabulary students needed to acquire. Many secondary teachers felt that they were not trained to teach students to read and write. Classroom observations showed a daily average of 33.4 minutes of reading in the primary schools. Over one-third of this was of library books, and the rest was reading for an expressed purpose. At the secondary level, only 7% of teacher time was spent on reading when all areas were considered. In English classes, 13% of teacher time was spent on reading, 23% on supervising, 21% on discussing, 16% on informing, and 15% on administration. The percentage of child time spent on reading over all lessons was 14. The largest proportion of child time was spent in listening. The greatest percentage of reading was done in textbooks.

YSSELDYKE, JAMES E.; ALGOZZINE, BOB; REGAN, RICHARD; & POTTER, MARGARET. Technical adequacy of tests used by professionals in simulated decision making. *Psychology in the Schools*, April 1980, 17, 202-209.

Uses a computer-simulated decision making program to determine the extent to which school professionals select technically adequate or inadequate tests. The 159 participants were told that the computer could provide them with scores and qualitative information regarding a pupil's performance on a variety of tests in seven domains including intelligence, achievement, perceptual-motor development, personality, language, and behavior. Participants were then provided with information about a pupil and instructed to make a placement decision by indicating the domain and specific tests on which they wanted scores and/or qualitative information. They continued this procedure until they indicated that they were ready to make a placement decision (or until 25 minutes had elapsed). Participants were then asked a series of questions regarding factors that influenced their decision. The list of tests included both technically adequate and technically

inadequate instruments and consisted of those shown to be most frequently used in making decisions about learning disabled students. Technical adequacy was evaluated by the use of norms, reliability, and validity. The results indicated that initial decisions frequently included technically adequate measures, but the use of technically inadequate measures increased as decision making continued.

CARRUTHERS, ROBERT L., & RICHARDSON, L. S. The end of the three Rs. *National Association for Secondary School Principals Bulletin*, October 1978, 62, 41-44.

Report findings from questionnaires completed by 130 principals and superintendents concerning priorities in basic education. When they were asked what courses should be taught, the only one to receive unanimous approval was reading; arithmetic received 99% of the votes and writing, 92%. Rankings for 40 courses are included in the report.

II-3 Preservice/in-service preparation, certification, selection.

FAGAN, EDWARD R., & LAINE, CHESTER H. Two perspectives of undergraduate English teacher preparation. *Research in the Teaching of English*, February 1980, 14, 67-72.

Questions English teachers about the effectiveness of their undergraduate programs in eight areas including secondary reading, linguistics, and literature for adolescents. A 20-item questionnaire was mailed to 91 recent graduates of one university's English Education program. Forty-five useable returns were analyzed and compared with findings from a 1969 study done elsewhere. On a 5-point scale asking respondents to rate the adequacy of their preparation in various areas, reading was ranked 3.0; adolescent literature, 3.3; and linguistics, 3.1. A major change in programs from 1969 was that more courses appeared to be required, including a reading course and linguistics courses. About one-third of the respondents in the present study felt that their undergraduate preparation could be improved, whereas between 30% and 50% in the 1969 study appeared to be dissatisfied with their undergraduate program.

GONZALES, PHILIP C. Teacher preparation: meeting the needs of the limited English speaking student. *Reading World*, May 1980, 19, 375-382.

Presents results of a survey of 38 major colleges and universities in the United States designed to determine the extent to which the reading education component of their teacher certification program attempted to prepare teachers to meet the needs of linguistic minority children. Forms were sent to 85 universities; 38 returned the surveys. Data showed that the responding institutions were addressing the needs of linguistic minority children. Eighty-four percent indicated that relevant topics were covered, while 91% provided field experiences with linguistic minority populations. Thirty-four to 71% included topics specific to teaching reading to these special children and spent an average of 24 class hours in reading language arts devoted to these concerns.

LOGAN, JOHN, & ERICKSON, LAWRENCE. Elementary teachers' reading inservice preferences. *The Reading Teacher*, December 1979, 33, 330-334.

Presents results of a survey sent to 301 first through sixth grade teachers to determine the topics they preferred for inservice training, their ratings of their preservice preparation for reading instruction, and their preferences as to how reading inservice programs should be presented. Responses were received from 94

primary teachers and 110 intermediate grade teachers. Teacher-preference items from a previous study were used to allow for comparisons across years. In general, teachers with less experience expressed the need to know more about basic instructional techniques such as grouping students and developing comprehension skills; more experienced teachers were interested in such things as adapting instruction to different groups and different reading methods. The highest ranking need for the total sample was providing help for the disabled reader (64%). Diagnosing individual student's needs ranked second (56%). These findings compared favorably with those of the earlier study; the major shift of interest that occurred was from concern for general methods to helping individuals. More than half of the respondents rated their preservice training as inadequate, while only about a third rated it as adequate. Preferences for inservice programs tended toward personalized ways to secure help on specific problem areas.

TOLSMA, CATHERINE C., & CHESTER, ROBERT D. Reading inservice needs assessment: instrumentation and analysis. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading Research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, pp. 236-238.

Reports a needs assessment survey of 1036 teachers in order to identify areas for inservice training. Responses were gathered from elementary, junior secondary, and secondary teachers from three school districts in British Columbia. The 21-item needs assessment instrument included 14 teaching techniques and seven skill development areas. Responses were submitted to factor analysis to identify clusters of topics. Four factors were identified: 1) Content Area Reading; 2) Individualizing Instruction; 3) Reading Skills; and 4) Reading Materials. Significant differences among teaching levels were found for 13 of the 21 items. Content Area Reading accounted for the largest proportion of common variance (38.1%); demand for Content Area Reading was greatest for the senior secondary teachers. Teachers at all levels placed highest priorities on the Reading Skills factor. Elementary teachers generally perceived a greater need for inservice training in most of the areas listed.

DUPUIS, MARY M.; ASKOV, EUNICE N.; & LEE, JOYCE W. Changing attitudes toward content area reading: the content area reading project. *The Journal of Educational Research*, November/December 1979, 73, 66-74.

Ascertains the effect of a year-long inservice program in content area reading on junior high school teachers' attitudes toward integrating reading skills into content teaching and improving their knowledge of those skills. The inservice program followed a competency-based format and consisted of 15 biweekly workshop sessions, each lasting three hours. Graduate credit was offered to participants. Two groups of teachers were studied, the 57 workshop enrollees and a comparison group of 72 who did not enroll. Two attitude instruments were developed for the study: 1) the *Statements Survey*, a 20-item Likert scale assessing attitude toward incorporating reading instruction in the content area; and 2) the *Situations Survey*, a 12-item semantic-differential instrument which included a feasibility score and a perceived skill score along with other information. In addition, a 23-item instrument, the *Knowledge of Reading Skills Test*, was developed to assess cognitive skills. The *Purdue Teacher Opinionnaire* was also given. Teachers in the workshop showed a significantly greater positive attitude change than did control teachers. Their knowledge of reading skills improved significantly, as did their perception of their skill in teaching reading.

SCHNITZ, JAMES E., & DIEM, RICHARD A. Staff development in content reading: a case study for social studies education. *Illinois School Research and Development*, Winter 1980, 16, 57-68.

Assesses the effectiveness of a one-year staff development program in content reading designed to help social studies teachers improve their students' comprehension. The 12 teachers, representing two different high schools, participated in workshops, demonstrations, and follow-up activities aimed at techniques such as assessing readability of tests, teaching study methods, improving questioning strategies, rewriting material, and conducting Directed Reading and Thinking Activities. A stipend was given for attendance in the project. Effectiveness of the program was gauged by comparing pre- and posttest scores on reading comprehension, vocabulary, and social studies for a random cluster sampling of intact classes stratified by school and participation in the study. For one of the two high schools, the teachers' participation made no difference on the students' test performance. For the second school, the participants' students had significantly higher scores than non-participants.

NIELSEN LINDA. An in-service program for secondary learning disabilities teachers. *Journal of Learning Disabilities*, June/July 1979, 12, 423-427.

Describes and evaluates an inservice program designed to assist five high school teachers whose students had primary and secondary learning problems. After ten 90-minute workshops on such topics as mainstreaming, learning disabilities, learning modalities, contingency contracts, and both specialized and general education topics, teachers altered their teaching techniques and reflected attitude changes. The 150 students served by the teachers preferred aspects of the program to conventional teaching methods: more than 85% of the students preferred contingency contracts.

COLVIN, RUTH; COY, JOYE JENKINS; DAUZAT, JOANN; EYSTER, GEORGE W. HITTLEMAN, DANIEL R.; JORDAN, ABBIE H. WILLIAMS; LEWIS, JILL; NEWMAN, ANABEL P.; RAETSCH, FREDERICK C.; STANDAL, TIMOTHY C.; & DAUZAT, SAM V. Survey of certification requirements for adult basic education teachers of reading. *Journal of Reading*, May 1980, 23, 730-736.

Reports the results of a survey done by the Basic Education and Reading Committee of the I.R.A. examining current practices in the United States relative to certification of teachers who teach reading to adults. A questionnaire with 14 major items was sent to 50 state departments of education and to the District of Columbia and New York City. Forty-five replies were received. In two states, New York and Ohio, 1,200 Adult Basic Education (ABE) teachers were responsible for teaching reading. The numbers in other states varied and six states plus D.C. each listed less than 100 individuals so engaged. Of the 45 respondents, 69% replied that their state did have some type of requirement for ABE teachers. The type of requirement most frequently checked was the elementary and/or secondary credential. When asked if requirements for ABE teachers of reading were different from those of other ABE teachers, 91% replied "No." Minimum standards for ABE teachers of reading were being worked on by a committee in 25% of states; 71% favored minimum standards. Only 36% reported that ABE teachers of reading are required to take college coursework in reading; 96% indicated that they offered staff development in reading.

MANGIERI, JOHN N., & KEMPER, RICHARD E. Reading: another challenge for teacher education. *Journal of Teacher Education*, November/December 1979, 30, 11-12.

Surveys all state directors of teacher certification to determine reading course requirements for secondary teacher certification. In addition, the questionnaire survey asked the respondents to indicate if no reading course was currently required whether their state had mandated a requirement for some future date. Of the 50 respondents, nine states required at least one reading course; three indicated that such a course would be mandated in the future. In the remaining 38 states, enrollment in a reading instruction course is left up to individual students or their program advisors.

HERITAGE, JOHN O., & KLING, MARTIN. A validity study of admission criteria for masters students in a reading program. *Epistle*, Fall 1978, 5, 1-11.

Carries out a study of selected admission criteria in a Master's program to determine their usefulness. Subjects were master's students enrolled in a program between 1964 and 1974. Some had completed the program and others had not. Records of subjects were examined for undergraduate GPA, scores on the verbal and quantitative sections of the GRE, undergraduate college attended, and age at the time of admission. There was no significant difference in the undergraduate GPA of the two groups. GRE-verbal score was correlated with attainment of the degree ($r = .23$). GRE-verbal scores of those graduating were significantly higher than those of non-graduates. GRE-quantitative score, quality of undergraduate school attended, and age did not differentiate between the two groups.

II-4 Reading Habits

GEORGE, THOMAS W., & RAY, STEVEN. Professional reading—neglected resource—why? *The Elementary School Journal*, September 1979, 80, 29-33.

Surveys the professional reading habits of 741 kindergarten through grade 12 teachers in an effort to determine why teachers fail to read professionally to improve their skills. The original survey was mailed to 2422 teachers, and returns were received from 741 (30.5%). Fifty-five percent of the respondents reported reading professional journals 30 minutes or less each week. Five percent reported doing no professional reading, while 10% reported reading more than 120 minutes each week. Amount of professional reading was related positively and significantly to years of teaching experience. There was a tendency for professionals with specialist or doctoral degrees to read more than others; minimal differences were found among respondents who had no degree, a Bachelor's degree, or a Master's degree. Principals were a significant influence on reading, particularly for those who read 60 or more minutes per week. Reading was also influenced by the discussion of readings during school faculty meetings. Periodicals were similarly available in urban, suburban, and rural schools, but there was a difference in perceived availability according to teachers' years of experience. The data also suggest that experienced teachers are more likely to read at home.

II-5 Characteristics and roles

MANGIERI, JOHN N., & HEIMBERGER, MARY J. Perceptions of the reading consultant's role. *Journal of Reading*, March 1980, 23, pp. 527-530.

Reports the results of a survey responded to by 160 reading consultants and 156 school administrators concerning their perceptions of the roles of reading

consultants. Questionnaires were designed to determine how the respondents ranked defined functions of a reading consultant by importance. Reading consultants perceived inservice leadership as the most important of their functions followed by serving as a resource person, investigator, adviser, evaluator, and instructor. Work as a diagnostician was rated least important. School administrators viewed the role of instructor as most important, followed by diagnostician, evaluator, adviser, investigator, inservice leader, and last, resource person. The two groups had varying beliefs as to how reading consultants can best spend their time.

II-6 Professional materials

PEARCE, DANIEL L., & BADER, LOIS A. Reading about reading: a survey. *Reading World*, May 1980, 19, 369-374.

Presents results from a survey of 51 professors of reading education drawn from representative geographical regions, and employed in institutions offering a Master's degree in reading. The professors were requested to list ten books that a person finishing a Master's degree in reading should read. The 42 books that received at least three recommendations are presented. The most frequently mentioned books were Edmund Huey's *Psychology and Pedagogy of Reading*, followed by Frank Smith's *Understanding Reading*, and George and Evelyn Spache's *Reading in the Elementary School*.

EBEL, CAROLYN WILLIAMS. An update: teaching reading to students of English as a second language. *The Reading Teacher*, January 1980, 33, 403-407.

Analyzes 116 teacher training texts related to reading instruction to determine how much information they presented about teaching reading to non-English and limited English speakers. Forty-three bilingual education texts were screened for information on reading instruction in both the student's native language and English. Of the 116 texts, 73 were eliminated from further analysis because of no reference to teaching nonnative speakers to read. Three books were devoted exclusively to teaching reading to nonnative English speakers; four books were judged to contain adequate information for the ESL reading teacher. While general texts do not refer to second language learning, ESL texts did not adequately describe learning-to-read techniques. An annotated list of 22 books judged helpful to the beginning teacher of ESL reading is available.

KOENKE, KARL. Reading materials for the reading teacher. *The Reading Teacher*, November 1979, 33, 176-178.

Surveys 260 remedial reading experts for the purpose of identifying a core list of recommended books and materials suitable for a novice teacher's professional library in remedial reading. Returns were received from 130 individuals. Of the 153 recommended titles, six were recommended by 21% to 45% of the respondents. Bibliographic data for those six are listed in addition to 19 other books recommended by 4% to 14% of the respondents.

SADKER, MYRA POLLACK; SADKER, DAVID MILLER; & GARIES, RUTH S. Sex bias in reading and language arts teacher education texts. *The Reading Teacher*, February 1980, 33, 530-537.

Examines 24 teacher education texts published between 1973 and 1978 for evidence of attention to sexism in the areas of content, research, framework, language, and illustrations. The percentage of page space devoted to experiences and contributions of women, sexism, and sex differences was less than 1%. Of the

five reading texts and four language arts texts analyzed, four omitted discussion of sexism. Coverage in an additional four books was limited. Six of the nine books discussed differences in children's reading preferences. The authors state that the research base is dated and condones sex-typed reading preferences. Typically, texts explained that boys were more likely than girls to have reading difficulty. The researchers concluded that teacher educators are using texts which fail to discuss adequately sex equity, sex biases, sex differences, or the contributions of women to society.

SADKER, MYRA and DAVID; & HICKS, TOM. Teacher training texts: sexist, too. *Interracial Books for Children Bulletin*, 1979, 10(7), 4-9.

Analyzes the content of 24 widely used teacher education texts to determine how they address issues related to sexism, sex differences, and the contributions of women. Results of content analysis indicated that 23 gave less than one percent of their space to the issue of sexism, while the other book gave 1.7%. One third did not mention the issue of sexism, and no text provided suggestions for curricular resources or instructional strategies to combat sexism. The five reading texts analyzed devoted twice as much content space to males. Three of the five did not mention the issue of sexism.

III. Sociology of Reading

III-1 Use and role of mass media

SIMONSON, MICHAEL; THIES, PAMELA; & BURCH, GEORGEANN. Media and attitudes: a bibliography. Part 1—articles published in AV Communication Review (1953-1977). *Educational Communication and Technology*, Fall 1979, 27, 217-236.

Presents an annotated bibliography of 68 articles published in one journal during a 25-year period. A discussion of the purposes, trends, problems, and implications of media-attitude research and a table summarizing the topics investigated and the results of each study are included in the report.

EDGAR, PATRICIA. Directions in mass communication research. *The Australian and New Zealand Journal of Sociology*, June 1975, 11, 21-27.

Reviews earlier mass media studies and the theoretical premises on which they have been based. Because mass communication research has drawn from psychology, sociology, political science, and communication theory, the results have often been conflicting. Alternative approaches and a suggested model for communication research are presented.

SHAW, DONALD L., & CLEMMER, CYNTHIA LONG. News and the public response. In Donald L. Shaw & Maxwell E. McCombs (Eds.) *The emergence of American political issues: the agenda-setting function of the press*. New York: West Publishing Company, 1977. Pp. 33-51 & 171-208.

Considers how issues rise and fall from the press agenda, both newspapers and television, and the responses made by the public to the shifting agenda. The topics in one newspaper were recorded for a year. Consistency in the coverage of certain topics, such as race relations or crime, law, and order, showed the heavy reliance on wire service news. Some issues erupted suddenly and were dropped quickly both in newspapers and on television. High agreement in topics covered was found among all media. Issues which concerned voters fell into clearly defined

patterns. The public issues were Watergate, government corruption, and the Nixon visit to Red China. It was concluded that media agenda-setting is a long-range process.

EWEN, STUART. The bribe of Frankenstein. *Journal of Communication*, Autumn 1979, 29, 12-19.

Describes origins of various machines, and shows that technology can be equated with progress but also with a world out of control. Included is a discussion of the history of printing as it is infused with the world commerce. Long before the newspaper emerged as a popular diversion, it was an agency of commerce. The same pattern prevailed to telegraphy. In the early 1900's communications assumed a new approach with media technologies emerging as public vehicles of social visions. The camera, especially motion pictures, best revealed the social potential of communications technology. The machine throughout the discussion is compared to the monster, Frankenstein.

HIRSCH, PAUL M. Public policy toward television: mass media and education in American society. *School Review*, August 1977, 85, 481-512.

Reviews research about mass media, principally television. The topics received consist of the economics and organization of American broadcasting; creating national audiences, including the change of the newspaper from an elite to a mass medium; the impact of television on radio, movies, newspapers, and magazines; the role of television and popular culture in contemporary society; the impact of television on American culture; and television and education.

TIERNEY, JOAN D. The evolution of televised reading instruction. *Journal of Communication*, Winter 1980, 30, 181-185.

Traces the origin and development of reading instruction on television from its beginning in 1954 in Maryland through "Sesame Street" and "The Electric Company." Major points discussed are the appropriateness of reading skills for instruction on television, the place of the classroom teacher in this kind of instruction, the immediate feedback, and television viewing as an active process.

MERINGOFF, LAURENE KRASNY. Influence of the medium on children's story apprehension. *Journal of Educational Psychology*, April 1980, 72, 240-249.

Compares children's apprehensions of a story either read to them from an illustrated book which they followed or presented as a comparable televised film. Two groups of children, 24 or younger (mean age 7.6) and 24 older (9.6), were randomly assigned to one treatment and individually presented the story. The subjects' verbal recall of the story was tested on both a spontaneous and an aided basis. They placed illustrations from the story in a sequential order, made inferences, and were monitored for gestures and conversation. Children exposed to the televised story remembered more story actions and relied on visual content for inferences; those who listened to the story recalled more vocabulary and based their inferences on textual content, general knowledge, and personal experience.

LEE, BARBARA. Prime time in the classroom. *Journal of Communication*, Winter 1980, 30, 175-180.

Tests the effectiveness of a television/reading program concept in which children were given transcripts of old television series to read while watching the programs on playback machines in the classrooms. The program was extended to television viewing at home. Following the viewing of "The Corn is Green" 95 students and their parents who had seen the program answered four questions concerning the procedures used. The results showed that encouragement of reading and

an opportunity for parental involvement were two benefits of the program. The combination of reading and viewing provided students with a broader background from which to respond to the characters, relationships, and themes embodied in the programs.

SIM, JOHN CAMERON. Mass media education in the U.S.A. *Media studies in education*. (Reports and papers on mass communication, No. 80). Paris: Unesco, 1977. Pp. 74-88.

Reviews research and practical approaches to teaching mass media in both elementary and high schools. The following topics are explored: the extent of reading by Americans, the use of newspapers in classrooms, publication aids, teaching aids, cable television, and the outlook for instruction about media.

BENNETT, SUSAN. The federal republic of Germany. *Media studies in education*. (Reports and papers on mass communication, No. 80). Paris: Unesco, 1977. pp. 27-33.

Describes the impact of mass media upon German education, especially social status. The rapid expansion of the media for home consumption in the Federal Republic of Germany has been matched by the development of the educational market. Learning techniques and materials used are described. A sample course in social studies designed for the new German teaching which makes creative use of all audio-visual media is included.

SINGER, DOROTHY G. Reading, imagination, and television. *School Library Journal*, December 1979, 26, 31-34.

Reviews research concerning the impact of television upon children. Included are the influences of television upon the acquisition of language skills and the development of imagination of preschoolers, hemisphere functioning and television viewing, and television exposure and reading achievement and leisure-time reading.

NEUMAN, SUSAN B. Television: its effects on reading and school achievement. *The Reading Teacher*, April 1980, 33, 801-805.

Reviews research related to the effects of television on different aspects of reading and school achievement; hours spent televiewing, television violence and child behavior, patterns of reading behavior, television as an educational tool, stimulation of reading through television.

ZUCKERMAN, DIANA M.; SINGER, DOROTHY G.; & SINGER, JEROME L. Television viewing, children's reading, and related classroom behavior. *Journal of Communication*, Winter 1980, 30, 166-174.

Relates various aspects of the television viewing of 185 children in third, fourth, and fifth grades to their reading achievement, reading habits, and reading and school behavior. Demographic information was obtained from a questionnaire completed by parents who kept a record of the television programs watched by the family for two 2-weeks' periods. Teachers completed behavioral ratings on imaginativeness, attentiveness in class, and enthusiasm in class. The father's educational attainment was the only variable significantly related to IQ scores. Children who spent more time reading had higher IQs and more highly educated fathers and watched fewer fantasy violent programs. Other findings were mostly nonsignificant.

MORGAN, MICHAEL. Television viewing and reading: does more equal better? *Journal of Communication*, Winter 1980, 30, 159-165.

Investigates relationships between reading and television viewing for students in grades six through nine, representing a wide cross-section of socioeconomic levels. Over 200 students completed two questionnaires concerning their television habits per year for three years; their parents also completed a questionnaire. The *California Achievements Tests* provided reading and other achievement scores as well as an IQ measure. Those with lower IQs watched more TV than those with higher IQs; TV viewing was negatively and significantly related to scores on all 11 achievement scores, with the strongest association being with reading comprehension. The heavy viewers read less than the light ones. There was considerable positive relationship between early viewing and later reading.

MOLDENHAUER, DEBORAH L., & MILLER, WILMA H. Television and reading achievement. *Journal of Reading*, April 1980, 23, 615-619.

Investigates the televiewing habits of 78 seventh grade students through a questionnaire and relates the results to the results of the Gates-MacGinitie Reading Test. The average viewing time was 19.4 hours Monday through Friday after school, with boys averaging 22 hours and girls, slightly over 17. No relationship was found between reading achievement and the amount of televiewing; good readers did not watch television significantly more or less than poor readers.

SCHWEITZER, JOHN C. VEC's current events program: a test of effectiveness. *Newspaper Research Journal*, February 1980, 1, 11-13.

Determines the effects of a commercial program on students' use of newspapers and other news media, and on their reading habits. A sample of 1,317 seventh and eighth grade subjects was divided into three groups: two having had the program before and one unexposed to the treatment. One of the exposed groups had a newspaper available which was not required reading. These subjects were tested on current affairs before the experiment, with 1,248 being tested afterwards. The major component of the program was a weekly filmstrip. Exposure to the program resulted in higher current affairs test scores, increased newspaper reading and news listening on radio and television.

TAN, ALEXIS S., & GUNTER, DELL. Media use and academic achievement of Mexican-American high school students. *Journalism Quarterly*, Winter 1979, 56, 827-831.

Relates mass media use to academic performance of 93 Mexican-American high school students who completed a questionnaire concerned with English-language television and newspaper use. Grade-point average was determined on a four-point scale. No relationship between total use of English language mass media and academic performance was found. A significant negative relationship between GPA and TV use for entertainment and a positive relationship between GPA and newspaper use for public affairs information were found. The subjects averaged 5.19 hours per day televiewing with 79.8% indicating they watched primarily for entertainment. Newspapers were read everyday by 8.6% of the subjects.

FEDLER, FRED, & TAYLOR, PHILLIP. Broadcasting's impact on selection of news stories by readers. *Journalism Quarterly*, Summer 1978, 55, 301-305, 333.

Investigates whether 194 college students seek information from newspapers about news they had heard previously on radio and television. During a class period students read a newspaper supplied to them as they normally did and after-

wards circled items they looked at and marked stories they had heard earlier on radio and television. The number of news stories were tabulated according to local or nonlocal news, their length, their placement in the newspaper, whether or not they had been heard on other media. The results showed that persons who heard stories previously were likely to select that story in the newspaper, especially if they heard it on radio and if it was concerned with local news.

KINNAMON, SUE E. Commercial television and adult reading. In Laura S. Johnson (Ed.) *Reading and the Adult Learner*. Newark, Delaware: International Reading Association, 1980. Pp. 41-46.

Reports the results of questionnaires completed by commercial television stations in Canada and the United States in regard to programming for reading instruction. Because of the 21% return of the 160 inquiries sent, 40 additional letters were sent to television stations in nine major metropolitan areas, with a 25% return. The basic questions included length, frequency, and time slot of the program; sponsors and consultants of the program; qualifications of the TV reading teacher; interaction between teacher and students, and estimated number of viewers. Only a few of the television stations had the type of program being investigated. Examples of responses from different stations are included.

DIMMICK, JOHN W.; MCCAIN, THOMAS A.; & BOLTON, W. THEODORE. Media use and the life span. *American Behavioral Scientist*, September/October 1979, 23, 7-31.

Reviews research concerning the changes during a life span which are associated with changes in the uses and gratifications which individuals derive from mass media. Included are a brief review of the uses and gratifications paradigm, a view of the process by which the gratifications derived from media change as a result of changes in individuals, and a stage-theory which relates changes in the need structure to changes in biophysical and sociopsychological states.

MEDRICH, ELLIOTT A. Constant television: a background to daily life. *Journal of Communication*, Summer 1979, 6, 171-176.

Identifies the characteristics of constant television households, those in which television is turned on most of the day and forms a background to almost all family activities. Data were obtained from interviews conducted with children, questionnaires completed by their mothers, and school test scores. From the sample of 764 randomly selected families, 35.2% (269) were identified as constant television households. In contrast with non-constant television homes, approximately half of the mothers in constant households had less than a high school education. Children in constant television households do less well than others in school, and are more likely to read below grade level.

AVERY, ROBERT K. Adolescents' use of the mass media. *American Behavioral Scientist*, September/October 1979, 23, 53-70.

Attempts to relate studies on adolescents' use of the mass media to the needs and attributes of adolescents. Posits the notion that research in this area has focused on head counting and descriptive breakdowns of media use when a theoretical perspective about media use and adolescence is needed.

MORRISON, ANDREW J. Mass media use by adults. *American Behavioral Scientist*, September/October 1979, 23, 71-93.

Reviews research concerning adult use of mass media. Characteristics of adult use of media, availability, and different research perspectives (demographic, lifestyle, action/motivation, uses/gratifications) are reported.

YOUNG, THOMAS J. Use of the media by older adults. *American Behavioral Scientist*, September/October 1979, 23, 119-136.

Summarizes research in the area of media use by the elderly. The report focuses on how and why the elderly use the mass media and attempts to provide a theoretical perspective regarding the aging process and media usage.

DOOLITTLE, JOHN C. News media use by older adults. *Journalism Quarterly*, Summer 1979, 56, 311-317, 345.

Interviews 108 adults in two Indiana senior citizen centers concerning their news usage, their criticism of news media performance, and their interpersonal communication. The subjects, two-thirds being women, were classified into one of three age groups. Education, income, and sociability exerted as much, or more, influence on how the sample use the media as did their ages. Newspapers were read daily by 78% of the sample for a mean of 30 minutes per day; the mean daily televiewing rate was four hours, 15 minutes; the mean daily radio listening rate was one hour, 42 minutes. The subjects read between one and two magazines per week. The older seniors expressed more criticisms of the media than the younger seniors did.

SWANK, CONSTANCE. Media uses and gratifications: need salience and source dependence in a sample of the elderly. *American Behavioral Scientist*, September/October 1979, 23, 95-117.

Examines the impact of media and nonmedia activities in meeting the needs of 74 subjects, aged 65 or older, and how that impact is mediated by an individual's life situation. The subjects were interviewed concerning their psychological needs; the utility of the media and nonmedia activities in gratifying the needs; activity, interaction, and life satisfaction levels; media behavior; and socio-psychological state. The significant relationships emerging showed that need levels are related to the perceived usefulness of certain activities for the fulfillment of needs. The subjects viewed their jobs, social activity, and solitary activity as more useful in gratifying their needs than any of the five media sources (television, radio, newspapers, magazines, books).

NEWSPAPER ADVERTISING BUREAU. *Women, work, and markets of the 80's*. New York: Author, 1979.

Uses a structured questionnaire in interviews with 1,041 working and non-working women concerning a variety of life style patterns, including media habits, the only part being summarized here. Working women use all media except television more than unemployed women, attributable in part to their higher educational level. The most important reason for reading newspapers was reading for its own sake. Among women at home who are sensitive to sex discrimination, newspapers are important in fending off feelings of isolation. Local news appeals more to nonworking than working women. The two groups are more similar than dissimilar in newspaper content interest. Approximately one half in each group felt that newspaper advertisements and articles presented women as they should be; television commercials and shows are considered derogatory by the majority of women.

GRUNIG, JAMES E. Time budgets, level of involvement and use of the mass media. *Journalism Quarterly*, Summer 1979, 56, 248-261.

Studies the ways 202 residents of the Baltimore and Washington, D.C., areas spent their time and the functional or non-functional relationships of the media content to situations involving the subjects. Time budgets were constructed for a single day for all subjects and were based upon the results of telephone inter-

views in which they described what they had done each hour the previous day. Data were analyzed in four steps: correlation of individual time use categories and individual content categories, factor analysis of time use and content categories, multiple regression to determine if any time factors predicted content factors, and canonical correlation to determine if the same time use factors predict more than one content factor simultaneously. The many findings of the study led to the conclusion that there was more evidence of low involvement, consumatory use of media than of high involvement, functional use.

SHAW, EUGENE F., & RIFFE, DANIEL. Newspaper reading in two towns. *Journalism Quarterly*, Autumn 1979, 56, 477-487, 512.

Compares media use and preferences of residents in two Tennessee communities, with fewer than 30,000 residents, which had similar media access but had different demographic compositions (education, occupations, income). Trained interviewers questioned 206 randomly selected subjects in one town and 282 in the other concerning their use of newspapers and television, interest in civic affairs, and community identification. Although the subjects in both towns preferred television for entertainment and considered newspapers as more committed channels of news, differences were noted in media preference. One town rated the newspaper lower, depended more on television for local news, and spent more time televiewing than the other town. It was concluded that demographics were not equally good predictors in both towns.

WATT, JAMES H., JR., & VAN DEN BERG, SIEF A. Time series analysis of alternative media effects theories. In Brent D. Ruben (Ed.) *Communication Yearbook 2*. New Brunswick, New Jersey: International Communication Association, 1978. Pp. 215-224.

Tests mass media effects in a community controversy about permission for the Concorde supersonic transport flights. Noise complaints via telephone were coded into type categories. At the same time monitoring of mass media coverage (newspaper, evening news broadcasts) of the controversy was conducted. A prominence coding technique, an audience measure, and a plan for time series analysis were devised for use in the study. The time series cross-correlation analysis showed that minimal conditions for support are present for four theories of mass communication effects: direct and indirect effects, agenda setting, and reverse agenda-setting. Of these, direct effects theory is the only plausible one when time lag information was interpreted.

TIERNEY, JOAN D. Defining ethnicity through measurement constructs: a cultural perspective according to Harold B. Innis. *Gazette*, 1979, 22(3), 176-185.

Administers a questionnaire to 63 parents, adolescents, and pre-adolescents in Canada to determine their language use, social activities, life-style, interests, and media habits. Ethnicity was measured on a 5-point scale. Six media sources were studied: radio, television, films, books, magazines, and newspapers. Parents and children of ethnic backgrounds did not differ significantly on media habits; both groups tended to select media that reflected their culture. A large number of ethnic daily and weekly newspapers are available, especially in Montreal.

JEFFERS, DENNIS W.; OSTMAN, RONALD E.; & ATKINSON, CURTIS. Mass media availability and use in a mental institution. *Journalism Quarterly*, Spring 1979, 56, 126-133.

Reports the results of two studies concerning the availability and use of mass media by different classes of hospitalized mental patients. Three types of

areas (bedrooms, lounges, staff areas) on two wards were surveyed for media items. The collection procedure yielded 1,922 separate observations during a three-week period; data were collected on 49 different variables. A total of 249 media items was found, 92% being print media items. Magazines, especially craft periodicals, accounted for more than half of the print media, followed by pamphlets, books, and newspapers. Except for-televueing, there was little mass media use in the mental hospital. An almost total lack of reading by patients was noted.

OLIEN, C. N.; DONOHUE, G. A.; & TICHENOR, P. J. Community structure and media use. *Journalism Quarterly*, Autumn 1978, 55, 445-455.

Relates media use and preferences in 19 Minnesota locations to community size and structure. Data came from survey studies in 19 different communities conducted since 1969 with sample sizes varying from 88 to 183. The communities reflected variation in size, structure, type of newspaper, and occurrence of public affairs issues. Subjects were asked which medium they preferred for news and the time they spent reading or listening to news. The data showed that daily newspaper reading is lower and television viewing higher in communities in which the local paper is a weekly rather than a daily. The type of medium covering a community is related to media preferences as sources of news. Community differences were more important than educational levels so far as preferences were concerned.

ROSSELL, CHRISTINE H. The effect of community leadership and media on public behavior. *Theory Into Practice*, April 1978, 17, 131-139.

Describes the effect that the news media and community leadership have on protest and white flight associated with court-ordered school desegregation in 10 school districts. News clippings from a microfiche service were read and analyzed according to the variables of conflict, level of protest, and leadership statements. Means, totals, and proportions were calculated for three and six month periods for the school year before desegregation. The average news story emphasized conflict but not overwhelmingly; these stories and those predicting dire outcomes were somewhat balanced with stories emphasizing positive outcomes. In both leadership and media statements, the emphasis on conflict was related to the extent of the plan.

JACKSON-BEECK, MARILYN. Interpersonal and mass communication in children's political socialization. *Journalism Quarterly*, Spring 1979, 56, 48-53.

Explores the relationship of exposure to television and newspapers and interpersonal discussion to political interest and knowledge. The variables of age, sex, and home environments were considered. The hypotheses were tested by a panel study relating communication and political socialization variables over time. The sample included 79 sixth-seventh graders and 132 seventh-eighth graders. Panel and non-panel members completed questionnaires which included questions about mass media exposure, political interest and information, and the subjects themselves. Newspaper exposure was a positive predictor of political information and interest, while television exposure was negative; interpersonal discussion generally detracted from children's political information level.

ADONI, HANNA. The functions of mass media in the political socialization of adolescents. *Communication Research*, January 1979, 6, 84-106.

Focuses on the nature and extent of the contributions of mass media to the development of political orientations and the patterns of interaction among them and youth's relations to peers and parents. The 841 high school subjects in

Israel completed questionnaires concerned with the degree of importance attached to a list of cognitive, affective, and instrumental attitudes toward political subjects and reference groups (government, the state, Israeli society, Jewish people); cognitive, emotional, and behavioral orientations to social relationships with parents, teachers, friends; patterns of mass media consumption; perceived helpfulness of mass media in developing political values. A positive relationship was found between exposure to information media and the importance attached to political and civic activities. There was a tendency to prefer certain media, but there was a high degree of interchangeability among them.

O'KEEFE, GARRETT J. Political malaise and reliance on media. *Journalism Quarterly*, Spring 1980, 57, 122-128.

Questions whether reliance upon television or newspapers is positively or negatively associated with negative political values, such as perceived altruism of politicians, and images of politicians. The data from interviews with 1,966 potential voters aged 18 and over were part of a larger study of the impact of the 1972 presidential election campaign on voter behavior. Political values were assessed by responses of "agree," "disagree," and "unsure" to six statements; candidate image measures were formed by combining responses to each of five positive-negative words describing the presidential candidates. Both television and newspaper reliance were associated with positive candidate images. No evidence was provided that greater television reliance evokes political malaise on the part of viewers.

QUARLES, REBECCA COLWELL. Mass media use and voting behavior: the accuracy of political perceptions among first-time and experienced voters. *Communication Research*, October 1979, 6, 407-436.

Investigates newspaper readership and television network viewing of political news by 388 eligible voters in Madison, Wisconsin, and 129 in Lexington, Kentucky, the latter being first-time voters. Subjects were interviewed to gain data concerning their degree of political and campaign interest, public affairs newspaper readership, network news viewing, knowledge of the political system, and accuracy in identifying positions of the major party candidates. Path analysis was used for data analysis. First-time voters were more likely than experienced voters to respond to campaign information and to learn about the candidates and issues through newspapers. For experienced voters, education and day-to-day interest were better predictors of accuracy of political perception than newspaper use. Network news was not correlated with accuracy.

CLARKE, PETER, & FREDIN, ERIC. Newspapers, television and political reasoning. *Public Opinion Quarterly*, Summer 1978, 42, 143-160.

Details the contributions of newspapers and television to the public informing process and discerns whether characteristics of the media play a part in information levels of people. Data originated from personal interviews with a weighted sample of 1,883 adults in 25 states having Senate elections in 1974. The criterion variable was having reasons for liking or disliking the two major party candidates. The subjects answered questions concerning their attention to the media. Their use of newspapers correlated positively with having reasons for their preference of one candidate over the other; television exposure was negatively related to political reasoning. News markets with competition among daily newspapers showed greater levels of information than monopoly areas, when education and interest in politics were controlled.

MULLINS, L. EDWARD. Agenda-setting and the young voter. In Donald L. Shaw & Maxwell E. McCombs (Eds.) *The emergence of American political issues: the agenda-setting function of the press*. New York: West Publishing Company, 1977. Pp. 133-148 & 171-208.

Questions 292 college students and 54 non-college youth concerning two or three issues which they felt were most important for the 1972 election and compares these results with media agendas, determined by a content analysis of the newspapers and monitoring network early evening news. Both groups of young voters tended to select issues which were moderately to highly intercorrelated with media emphasis. Newspapers were more influential with those of higher formal education while television influenced those having less formal education. Young voters with greater interest in news recalled more issues than those without this interest. Television's emphasis on one or two issues at any time had an effect on the single most important issue young voters held important, but newspapers caused them to recollect a greater number of issues.

HOFSTETTER, C. RICHARD; ZUKIN, CLIFF; & BUSS, TERRY F. Political imagery and information in an age of television. *Journalism Quarterly*, Autumn 1978, 55, 562-569.

Includes newspaper reading and radio listening in an investigation of the effects of television exposure using a national survey of the American electorate during the 1972 campaign. Multivariate regression analysis was used to determine relationships among the media and the perceptions of candidate imagery, personality, issue position and proximity and political information. Within one month interviews were conducted with 1,034 subjects who described their viewing and listening habits as well as the number of newspaper articles they had read about the campaign. Newspaper reading and radio listening related more to being informed than television news viewing.

ROBERTS, CHURCHILL L. Media use and difficulty of decision in the 1976 presidential campaign. *Journalism Quarterly*, Winter 1979, 56, 794-802.

Tests in four stages the influence of mass media upon decisions made in the 1976 election. The motivation to follow the political campaign, mass media use, attitude discrimination, and difficulty of decisions were determined for 90 subjects through questionnaires, interviews, and a seven-step semantic differential instrument. Path analysis was used to test the relationships of the variables; regression analyses were conducted to obtain path estimates. In the early stages of the campaign, attention to the media, especially newspapers, accelerated the development of attitudes about candidates. Less motivated subjects spent less time with the media, obtained less political information, were slower in making attitudinal discriminations among the candidates, and experienced more difficulty in making a voting decision.

HOFSTETTER, C. RICHARD. Perception of news bias in 1972 presidential campaign. *Journalism Quarterly*, Summer 1979, 56, 370-374.

Interviews 1,034 subjects during the 40 days before the 1972 election and telephone interviews 701 of these subjects within 14 days following the election concerning television and newspaper coverage of the campaign. Although the vast majority saw no political bias in either medium, a larger proportion perceived bias in newspaper reporting than in television presentations. The subjects were more likely to see bias when they were politically active and when they monitored many mass media.

MCCLENEGHAN, J. SEAN. Media and non-media effects in Texas mayoral elections. *Journalism Quarterly*, Spring 1980, 57, 129-134, 201.

Explores the interrelationships of media and non-media variables and outcomes of 23 Texas mayoral races. A content analysis of news stories, pictures, and advertising was conducted in 27 newspapers for a 30-day period. Campaign data were collected from 30 television scripts for 30 days before the election day. Forty opinion leaders in the 23 cities completed a semantic differential instrument of 14 scales measuring the winning and losing candidates. The discriminant analysis for judgments on all 46 candidates showed that 13 of the 14 scales discriminated significantly between the winning and losing candidates. Both media and non-media variables related positively to election outcome, but the impact of non-media variables is slightly greater.

O'KEEFE, GARRETT J., & MENDELSON, HAROLD. Nonvoting: the media's role. In Charles Winick (Ed.) *Deviance and mass media*, Vol. 2, Beverly Hills, California: Sage, 1978. Pp. 263-286.

Analyzes motivations and media uses of 1,486 nonvoters. Data were derived from subjects' reasons for not voting, characteristics of their media behavior, their age, political interest, and education. The subjects rated 11 possible reasons for not voting according to importance. For the sample as a whole the most important reasons for abstention were distrust and cynicism toward candidates, lack of concern with politics, and lack of information about the candidates. The profile of nonvoters' use of mass media does not differ markedly from that of voters. Exposure to newspapers and television news generally increased with age, education, and political interest. Television emerged as the prime political medium for nonvoters.

ANDERSON, DIGBY C., & SHARROCK, W. W. Biasing the news: technical issues in 'media studies.' *Sociology*, September 1979, 13, 367-385.

Summarizes and critiques media/cultural studies and illustrates these criticisms through an analysis of one subject's treatment of a newspaper. Origins of bias were determined as being in the practices of news producers, in the background of news production, in the produced text, and/or in the reading of the text. A tenet held throughout the report was that the conclusions in the media studies are not necessarily drawn from these studies and that other conclusions could be drawn from the same materials. It is argued that any plausibility of media critics' arguments is derived from the organization of their analysis and not from accuracy of the text.

LEE, RAYMOND S. H. Credibility of newspaper and TV news. *Journalism Quarterly*, Summer 1978, 55, 282-294, 318.

Develops a semantic differential scale for measurement of the credibility of newspaper national/international news, television national/international news, newspaper local/state news, and television local/state news. From 17 college classes, 401 randomly selected subjects responded to 45 scales. Data were analyzed by factor analysis and a t-test. A majority (76 and 73%) believed television over newspaper for national/international and for local/state news when asked which medium they would believe in case of conflict in reporting. No significant differences between sex and credibility of sources were found. The results of the factor analysis revealed different, as well as overlapping, factors for each concept: a dimension labeled "intimacy" was the only one occurring consistently across all concepts examined.

DURAND, RICHARD M.; TEEL, JESSE E., JR.; & BEARDEN, WILLIAM O. Racial differences in perceptions of media advertising credibility. *Journalism Quarterly*, Autumn 1979, 56, 562-566.

Investigates racial differences in the credibility attributed to advertisements in radio, television, magazines, and newspapers, and the usefulness of these media in reducing perceived risk in product purchase decisions. Data were collected from a convenience sample of 80 black and 80 white subjects considered to be demographically similar. Four information categories were examined: media credibility for local, state, and national news; and political, public service, and product advertising. The subjects' responses on a seven-point scale to a questionnaire were analyzed according to race. Newspapers are the most credible source of local news by both groups. The major difference between the races concerning advertisements and national news coverage was the faith in television exhibited by blacks and in magazines by the whites except in the case of public service advertisements. Whites perceived all media to be less useful than blacks in reducing risk.

TAN, ALEXIS S. Evaluation of newspapers and television by blacks and Mexican-Americans. *Journalism Quarterly*, Winter 1978, 55, 673-681.

Investigates in personal interviews how 176 adult blacks and 190 adult Mexican-Americans evaluated television and newspaper portrayals of their ethnic groups. Media criticism was the dependent variable; explanatory variables in the multivariate model were age, education, self-concept, and mass media use, the later being subdivided into frequency measures of televiewing entertainment, televiewing public affairs, newspaper entertainment reading, and newspaper public affairs reading. Evaluations of televiewing were based upon four items pertaining to the quantity and quality of television portrayals of the two ethnic groups; of newspapers, three items. Five items measured self-esteem. Both groups were generally negative in their media evaluations, but blacks were more critical than Mexican-Americans. Those most critical in both groups tended to be younger and to have high self-esteem; blacks who were critical tended to have higher education.

HERZSTEIN, ROBERT EDWIN. *The war that Hitler won: the most infamous propaganda campaign in history*. New York: G. P. Putnam's Sons, 1978.

Examines the methods used by Goebbels and the Nazi party to disseminate their propaganda. Parallel studies of different mass media during various propaganda campaigns are utilized as well as a study of the ways in which the party and state institutions of propaganda functioned. The author noted a difference in the effectiveness of wartime propaganda developed for domestic use as opposed to that aimed at other nations; the former was effective in mobilizing the nation even when Germany was on the verge of defeat, while the latter was largely ineffective. Film, radio, the illustrated and word press, books, posters, placards, leaflets, brochures, and many other media are included in the analysis.

HALLORAN, JAMES D. Studying violence and the media: a sociological approach. In Charles Winick (Ed.) *Deviance and mass media*, Vol. 2, Beverly Hills, California: Sage, 1978, Pp. 287-305.

Reviews research concerning the relationship of mass media, especially television, and violence. Such topics as the following are covered in the report: explanations of violent behavior; study of violence within appropriate national, historical, cultural, and economic contexts; the media as a major source of violent behavior; influence of the media. Limitations of this kind of research are noted.

STEVENSON, GORDON. The wayward scholar: resources and research in popular culture. *Library Trends*, April 1977, 25, 779-818.

Reviews the status of research and practice related to popular culture as found in books, music, newspapers, comic books, television programs, and films. Four types of information relevant to the relationship of popular culture research and the services of research libraries were reviewed: home disciplines of authors, research questions and topics (origins, form, content, diffusion, effects, use), methodologies, and resources (primary and secondary sources). The major type of research data used thus far in popular culture studies is documentary evidence.

BAGDIKIAN, BEN H. Conglomeration, concentration, and the media. *Journal of Communication*, Spring 1980, 30, 59-64.

Explains patterns of media control in the United States and some of the results of these patterns. Fewer than 100 corporate executives have ultimate control of the majority of each medium. Some of these corporations are among the top 20 controllers of more than one medium. This pattern of control is compounded by two new developments in media ownership: inclusion of journalism and other media companies in large conglomerate corporations that are in other industries and several traditionally competing media under ownership by the same parent corporation. A recent development affecting the control of news is the entry of leading newspaper corporations into the stock market.

DOMINICK, JOSEPH R. Crime and law enforcement in the mass media. In Charles Winick (Ed.) *Deviance and mass media*, Vol. 2. Beverly Hills, California: Sage, 1978. Pp. 105-128.

Reviews research concerning crime and law enforcement as reported and portrayed in newspapers and on television. Reporting crime news is an old tradition in American journalism, dating back to the Penny Press era in 1833. Currently, a typically metropolitan paper devotes approximately five to ten percent of its available space to crime news, especially individual crime accompanied by violence. Different newspapers devote different amounts of space to crime news. Television shows dealing with crime constitute a major part in prime time dramatic programming with the principal type of crime being a violent one directed toward individuals.

BURRIS, LARRY L., & WILLIAMS, JEANNE P. Use of network news material by cross-owned newspapers. *Journalism Quarterly*, Autumn 1979, 56, 567-571.

Explores the impact of three network television interview shows on news published in 23 newspapers. After the interview programs were taped, the investigators compared their content with that in six newspapers having no television affiliation and in 17 having affiliation with independent or network television. Two kinds of measurement were used: noting if the newspaper content included interview material and assigning each story a score based upon the Budd Attention Scales. The data revealed no significant relationship between network-related newspapers and newspaper use of the interviews.

STEADMAN, HENRY J., & COCOZZA, JOSEPH J. Selective reporting and the public's misconceptions of the criminally insane. *Public Opinion Quarterly*, Winter 1977-1978, 41, 523-533.

Assesses the impact of the media on the formation and accuracy of people's perceptions of the criminally insane. Interviews were conducted with 413 subjects (62% female, average age, 45; white, 94%). Subjects completed 14 bi-polar semantic differential items presented on a seven-point scale which might apply to

most people, a criminally insane patient, and a mental patient. They were asked to recall having seen or heard stories on radio, television, or newspapers about people who were criminally insane. From a factor analysis, the factors describing the latter were unpredictability and dangerousness. Almost all of the people recalled were actual or alleged murderers. Perceptions of the criminally insane were inaccurate; the media were criticized for bizarre depictions of them.

HAROLDSSEN, EDWIN O., & HARVEY, KENNETH. The diffusion of 'shocking' good news. *Journalism Quarterly*, Winter 1979, 56, 771-775.

Determines through telephone interviews how 245 heads of households in a Utah county learned that the Mormon Church had approved of blacks for priesthood and their reactions to the news. Approximately 53% of the sample heard the news first through interpersonal sources. Of those hearing about it through the media, 54% gained the information first through television; 38%, radio; 8%, newspaper. The subjects believed that mass media are more credible than interpersonal sources. Of those learning the news from interpersonal sources, 79% went to the media for confirmation.

BRIGGS, ASA. Word and image: changing patterns of communications. *Daedalus*, Spring 1979, 108, 133-149.

Describes the development and influence of television in European countries. Television has not destroyed the book nor radio; changes in newspapers are only partly related to television. Barriers to the publication and distribution of books, magazines, and newspapers have been related to economic situations; some newspapers have received governmental aid. Teamwork among the media was noted; some of the concepts and procedures associated with the news media are being applied to the old and vice versa.

MINKKINEN, SIRKKA. Situation of the mass media in Finland. *Media studies in education*. (Reports and papers on mass communication, No. 80) Paris: Unesco, 1977. Pp. 56-62.

Describes the different Finnish media; newspapers, periodicals, books, film, radio, and television. Feature characteristics of these media were concentration of production, an increasing proportion of imported materials, prominent role of advertising, and a heightened commercialism. Finnish mass media production is partly private (70%), partly state-owned through the Finnish Broadcasting Corporation (15%), and partly in the hands of organizations, such as political parties, (15%). Mass media education, including objectives, teacher training, instructional materials, and teaching techniques, was included in the report.

RUGH, WILLIAM A. *The Arab press: news media and political process in the Arab world*. Syracuse, New York: Syracuse University Press, 1979.

Analyzes Arab news media as institutions to determine the forms they have taken in 18 nation-states, the ways the self-governing Arab societies control them, and their relationship to the political processes in the Arab world. The structures of the daily newspaper, radio, television, and newsgathering institutions are described. Three press subtypes and the countries to which they apply were delineated in detail: the mobilization, loyalist, and diverse presses. The mobilization press gives active support to the ruling group who is aggressively dedicated to revolutionary change. The loyalist press is loyal to the regime and policies of government and is found in countries having a more traditional political system. The diverse press operates in countries where public expression is free and where the government does not suppress open dissent.

BOYD, DOUGLAS A. A Q-analysis of mass media usage by Egyptian elite groups. *Journalism Quarterly*, Autumn 1978, 55, 501-507, 539.

Determines the media 30 Egyptian elite (university professors, high-level government officials, wealthy Egyptians) preferred for information about Egyptian, Arab World and foreign news; which media they considered most important and reliable; and the setting within which media were consumed. From a 60-item instrument, the subjects selected specific items as most characteristic of themselves and sorted items into an 11-point quasi-normal forced distribution. Data were factor analyzed, creating three groups of people. Type I (largely government officials) preferred Egyptian media, especially for entertainment value, and found them credible. Type II people preferred to get news about Egypt and international events from foreign media and assigned low credibility to Egyptian media. Type III subjects are foreign-radio oriented but read Egyptian newspapers.

BOYD, DOUGLAS A., & KUSHNER, JIM. Media habits of Egyptian gatekeepers. *Gazette*, 1979, 25(2), 106-113.

Questions 25 leading Egyptian editors (radio, television, newspaper, magazine) in interviews about their work-related and personal sources of news information, which ones they favored, and which influenced them in making news decisions. Wire services and reporters or free-lance submissions were the two news sources cited most for work activities. The editors were heavy consumers of print and electronic media, especially radio, outside their work settings. Of the 17 who listened regularly to foreign radio broadcasts, 14 preferred the British Broadcasting Company over Voice of America and the local press radio for Egyptian news. Television was used largely for entertainment. Twenty-one editors thought they were influenced generally by their extra-work news consumption.

SCHNEIDER, IVO A., & FETT, JOHN H. Diffusion of mass media messages among Brazilian farmers. *Journalism Quarterly*, Autumn 1978, 55, 494-500.

Explores how messages about agricultural practice flowed to 327 heads of households in a Brazilian small village. Three messages concerning recommended agricultural practices were published in the newspaper and broadcast over radio and had varied characteristics. The role of opinion leaders in the process was also explored. A large field staff interviewed all subjects within three days to learn if they had read, heard on radio, or talked about any of the topics and what they remembered. Radio reached more people, but the subjects remembered more if they both read the message and heard it on the radio. Of the eight socioeconomic variables correlated with the amount of information remembered, the only one not significant was education. The study showed that the media can diffuse information directly; little support was found for interpersonal exchange of ideas.

BALES, FRED V. Mass media use and developmental factors in two squatter settlements. *Journalism Quarterly*, Spring 1980, 57, 144-146.

Tests the relationships between mass media use and the variables of education and political participation within squatter settlements in Lima, Peru, and Guayaquil, Ecuador. The study involved secondary analysis of data from a 1970-71 summary. The number of subjects for the different analyses varied from 345 to 416. In Lima, 86% owned radios; 77% read newspapers; and 73% used radio or television for news. In Guayaquil, the corresponding levels were 91%, radio ownership; 42%, newspaper reading; 61%, radio or television consumption. The association between education and newspaper use for national and international news was significant. High use of radio and television was reported regardless of the level of education. A less definite relationship was noted between media use and political activism.

LENT, JOHN A. Mass communication research in southeast Asia: recent trends and development. *Asian Thought and Society*, September 1978, 111, 142-153.

Reviews research and commentaries concerning the qualities of media research conducted largely in third world countries. Topics addressed include the development of the field of mass communication, institutions conducting research, types of research studies, problems of conducting research, and needs for research. Media research in these countries suffers from slow growth, lack of appreciation of the subject field by different sectors, inadequate goal-oriented direction, bias for certain types, and poor methodology. Problems in conducting research peculiar to the different countries are delineated.

HARRISON, GODFREY. Mandarin and the mandarins: language policy and the media in Singapore. *Journal of Multilingual and Multicultural Development*, 1980, 1(2), 175-180.

Explains the part of the media in a Singapore campaign which encouraged ethnic Chinese to use the Mandarin language more and the other languages less often. Bilingual banners (Mandarin and English), posters, messages in trade union offices, television serials, films, and the press are the means used to exhort the people to choose Mandarin as the official language.

MCCOMBS, MAXWELL E. Newspapers versus television: mass communication effects across time. In Donald L. Shaw and Maxwell E. McCombs (Eds.) *The emergence of American political issues: the agenda-setting function of the press*. New York: West Publishing Company, 1977. Pp. 89-105 & 171-208.

Compares the agendas of political issues presented in the *Charlotte Observer*, CBS, and NBC for the months of June and October with the personal agendas of political issues of voters who reported these news media as their principal and regular sources of political information and who were interviewed in both months. To determine these relationships across time a series of cross-lagged correlations was conducted. During the 1972 presidential campaign the newspaper showed a stronger initial match with the voters' concerns than did the two TV networks. By October, voter concerns showed a better match with TV than with the newspaper. Three agenda setting models (awareness, salience, priorities) were proposed and tested.

III-2 Content analysis of printed sources

CHARNES, RUTH; HOFFMAN, KAY E.; HOFFMAN, LYLA; & MEYERS, RUTH S. The Sesame Street Library—bad books bring big bucks. *Interracial Books for Children*, 1979, 10(5), 3-7.

Reports the findings of an analysis of 14 books in the Sesame Street Library in regard to sexism, racism, pedagogy, and commercialism. Males were found in 2,368 illustrations; females, 404 (a ratio of six to one). Males outnumbered females as main characters in the stories and in illustrations on the covers of the books. Females are portrayed in stereotyped roles. Even though most characters are animals, examples of racism were identified. Pedagogical flaws included incorrect grammar, over-simplification of the learning tasks, and pointlessness of the stories.

SNYDER, GERALDINE V. Do basal characters read in their daily lives? *The Reading Teacher*, December 1979, 33, 303-306.

Surveys the narrative and illustrations in grade one basal readers from ten American series to determine which story characters read, what they read, to whom

they read, and the settings in which they read. Boys and men are depicted reading more often than girls and women. People reading at work have low visibility. Most of the content is concerned with fairy tales, outer space, and animals; 14% of the material being read was signs. Approximately 43% of the characters are reading silently. Most of the oral reading is to children. The reading depicted is done in a variety of settings.

BOLTON, RALPH, & CRISP, DIANE. Color terms in folk tales: a cross-cultural study. *Behavior Science Research*, 1979, 14(4), 231-253.

Examines the relative importance of color terms in folk tales from 40 cultures. The evolutionary sequence of color categories proposed by other researchers was tested and found to hold true in folk tales. The basic premise was that basic color vocabularies increase by a process of creating new color categories which are added to the existing set. Of the 3,936 color terms tabulated from the tales which had been translated into English, 94% were basic color categories, and 6%, secondary terms (such as *golden*). It was concluded that evolutionary order is related to the number of different classes of objects to which color terms apply.

DANIELSON, LARRY. Toward the analysis of vernacular texts: the supernatural narrative in oral and popular print sources. *Journal of the Folklore Institute*, September/December 1979, 16, 130-154.

Compares oral and popular print texts about supernatural visitations and determines if folklorists use vernacular sources as freely as they use archive texts and academic folk narrative collections. Punch cards for 143 texts were encoded with information about the content (34 variables), structure (9 variables) and style (20 variables) of each narrative. The number of texts in which each variable appeared was calculated; percentages of each classification were determined. Of the three major categories, the greatest discrepancy was apparent in the style of the selections.

WITUCKE, VIRGINIA. A comparative analysis of juvenile book review media. *School Media Quarterly*, Spring 1980, 8, 153-160.

Analyzes five major review sources of children's books for the extent of coverage of 30 titles, as well as the year's total publishing output, time lag between publication and review dates, length of review, amount of criticism, reviewers, and policies. Titles were taken from lists of Notable Children's Books of 1972, 1973, and 1974; reviews of these books were identified through the Book Review Index. *Booklist*, *School Library Journal*, and *Bulletin of the Center for Children's Books* covered 93% or more. All sources published reviews sometime after the publication dates, ranging from eight to 19 weeks. General consistency of opinion among the five sources was noted.

FARR, PAMELA L. Trends in math books for children. *School Library Journal*, October 1979, 26, 99-104.

Examines mathematics books for children, including six published in the 1960s or earlier, and 13 books (counting books, basic number concepts and operations, and the metric system) published in the 1970s. Each book is individually analyzed. The earlier books lacked consistency and a clear conceptual and literary development. Criteria for judging mathematics books, problems authors have in writing interesting mathematics books without distorting mathematical concepts, and suggested solutions for these problems are presented.

SMITH, ALLEN. Bruner's theory of instruction—fact or fantasy. *College Student Journal*, Winter 1979, 13, 382-386.

Examines the validity of Bruner's theory that any subject can be made appropriate for any child at any stage of development. Seven American history textbooks written below the seventh grade reading level (Group 1) were compared with seven written above the foregoing level (Group 2) to determine if they presented detailed and understandable historical views of two topics: the Civil War and the Great Depression. An evaluative instrument, comprised of 14 different parts and incorporating both quantitative and qualitative content analyses, was devised. Group 2 presented a more complete, analytical picture of the different factors leading to the Civil War than Group 1 books with one exception, but opposite results were found for the Great Depression.

GARCIA, JESUS. The American Indian: no longer a forgotten American in U.S. history texts published in the 1970s. *Social Education*, February 1980, 44, 148-152, 164.

Extends a previous study by analyzing 20 high school history textbooks published since 1970 for thematic treatments of native Americans. Data were classified into eight categories used by another researcher according to the quantity of coverage: minimal, five sentences; nominal, one-half page; maximal, one page. The results showed that the writers relied heavily upon the themes of "Noble savage," "Indian warrior," and "chief" categories. The researcher concluded that a revised list of themes was needed because some were not included in the texts analyzed and because the variety of topics classified as "other" indicated breadth of coverage.

FITZGERALD, FRANCES. *America revised: history schoolbooks in the twentieth century*. Boston: Little, Brown and Co., 1979.

Describes high school history textbooks of the nineteenth and twentieth centuries. The nineteenth century ones revealed how a sense of the American identity developed. Textbooks of the present century reveal changes, sometimes abrupt, in content, concepts, approaches, political and pedagogical ideas from those of the past century. Authors of books, their publishers, textbook selections, and protests about textbooks are included. Individual textbooks and their authors are described, especially Muzzey's *American History*, used for more than 50 years. The investigator's theses were that with the rewriting of American history to suit pedagogical fads and political interest groups there is still no idea of what the American Dream was or should be, that the purposes of the books were to manipulate children more than to inform them, and that the books are dull. Few changes in approaches were found among most texts published after 1930.

ANYON, JEAN. Ideology and United States history textbooks. *Harvard Educational Review*, August 1979, 49, 361-386.

Examines the content of 17 high school United States history textbooks in regard to economic and labor history from the Civil War to World War I. The findings revealed that the textbooks reflect an ideology that serves the interests of particular groups in society to the exclusion of others. In the textbooks, those not empowered by economic and social patterns in society are the working class and the poor. Omissions, stereotypes, and distortions found in these social studies textbooks account for the powerlessness of Native Americans, blacks, and women. These textbooks promote the idea that there is no working class in the United States and that workers are middle class.

GREEN, BARBARA, & HURWITZ, LEON. Bias in college textbooks: the impact of critical events on interpretations. *Journal of Higher Education*, March/April 1980, 51, 184-193.

Conducts a content analysis of four major American government textbooks published in the McCarthy era and editions of the same books published after Watergate to determine if the presentation of basic issues is determined by events in the real social and political world and if events lead to a reinterpretation of a fundamental issue. Two events were investigated: the McCarthy era and Watergate, both events involving confrontation between the executive and legislative branches of government. Information was analyzed by a display analysis (type of message, presence of emphasis, length) and directional analysis (relevant to the issue or the people involved). Message units were classified as favorable, unfavorable, or balanced/neutral towards the legislative position in the clash. Data were analyzed by the Janis-Fadner coefficient of imbalance. The findings point up the tendency of textbooks to stress the current event to the point that it distorts the overall presentation of current issues.

LEVNO, ARLEY W., & PFISTER, GUENTER G. An analysis of surface culture and its manner of presentation in first-year college French textbooks from 1972 to 1978. *Foreign Language Annals*, February 1980, 13, 47-52.

Applies an evaluation design to 21 first-year college French textbooks published from 1972 to 1978 to determine the manner and adequacy of their presentation of surface culture. The surface culture part of the design was based upon categories used by three other researchers; the second part, the pedagogical design, was also adapted from others. Only two textbooks were considered adequate in surface culture content and the manner of its presentation.

BRYANT, JENNINGS; GULA, JOANNE; & ZILLMANN, DOLF. Humor in communication textbooks. *Communication Education*, May 1980, 29, 125-134.

Analyzes 90 speech, interpersonal, and mass communications textbooks for examples of different kinds of humor. Undergraduate students read the selected chapters and identified every attempt at humor; two senior students then content analyzed each humorous incident. Humor was measured in column inches and classified according to its mode of presentation (verbal, visual), its relationship to educational points, and as nonsense (harmless) or as tendentious (disparaging a person or thing). Data were analyzed by chi square and analysis of variance. Interpersonal communication textbooks employed significantly more humor than the other two areas did. The bulk of the humor was presented verbally and judged to be used to teach rather than attract and was nonsense humor. It was concluded that humor was used carefully and competently in the texts examined.

OSHIRO, YOSHITAKE. Analyses of dialogue and pictorial features of comic strips—multidimensional scaling of perceiving comic strips: 1. *The Science of Teaching*, December 1979, 23, 105-114.

Analyzes pictures and dialogues appearing in five boys' and five girls' Japanese comic magazines, randomly selected to characterize the expressive features of the comics. Frequencies of the appearance of 10 pictorial and 15 dialogue indices were tabulated for each of the 202 pages analyzed. Correlations were computed among 25 variables; a factor analysis of the correlation matrix yielded five factors: general expression, non-utterance, emotion, utterance, close-up. From an R-mode cluster analysis, the 25 variables were clustered into three main categories: non-utterance, utterance, and general expression. Comparisons were made between boys' and girls' comic magazines.

GERBNER, GEORGE. Deviance and power: symbolic functions of "drug abuse." In Charles Winick (Ed.) *Deviance and mass media*, Vol. 2. Beverly Hills, California: Sage, 1978. Pp. 13-30.

Reviews frame by frame selected comic strips portraying characters who use drugs to depict symbolic function of deviance. Illustrations from the comics are included.

LORIMER, ROWLAND, & LONG, MARGARET. Sex-role stereotyping in elementary readers. *Interchange*, 1979/1980, 10(2), 25-45.

Reviews the result of three previously reported studies in which the content of three often-used Canadian basal readers was analyzed for sex-role typing and stereotyping. New data from an analysis of two other reading series are also included. The ratio of male to female characters, character traits presented, contingent traits, and the range of portrayals were investigated for each series. The results are similar to those found in studies conducted in the United States concerned with the same problems: more male characters than females, more descriptions of personality traits for males than females, participation of males but not females in active roles; the portrayal of males is more complete and attractive than that of females.

KNOPP, SHARON. Sexism in the pictures of children's readers: East and West Germany compared. *Sex Roles*, April 1980, 6, 189-205.

Analyzes content of pictures in 15 West German readers and four East German readers, grades one through four, to determine if sex bias existed in these books. Tabulations for each person pictured were made for the variables of sex, people pictured alone, female wearing dress or pants, general body language (standing, running, etc.), use of arms (active, passive, holding or manipulating object), people pictured in groups of three or more, and adult occupation portrayed. Data analyzed by chi square revealed that West German readers increased in bias, favoring males, from the 1960s to the 1970s. Increased bias from grade one through four was found for both countries. West Germany was significantly more biased than East Germany on nine variables.

MAY, JILL P. Spirited females of the nineteenth century: liberated moods in *Little Women*. *Children's Literature in Education*, Spring 1980, 11, 10-20.

Assesses the role of early nineteenth century women in a case study of the four sisters in *Little Women*. The female characters represent a break from the typical New England housewife of the time. Although the four sisters agreed with women then that happiness comes from marriage, each had strong opinions and a desire to satisfy her own goals within marriage. It was concluded that they were the forerunners of twentieth century women. The life and characteristics of Alcott are related to those of the four characters, especially that of Jo.

WEINBAUM, SANDY. Women in high school U.S. history texts: what are the changes? *Women Studies Newsletter*, Spring 1979, 7, 1-4.

Surveys 18 current United States history books concerning their treatment of women and compares them with books analyzed in a 1974 study. Although women received somewhat greater coverage in the new texts, their part in history is underrepresented. The roster of women included has not changed very much. Since most textbooks were organized around political and military events, women are often omitted. The major changes found in the newer history books were the elimination of sexist usage in language and the inclusion of women in illustrations.

HAHN, CAROLE L. Social studies with equality and justice for all: toward the elimination of sexism. *Journal of Research and Development in Education*, 1980, 13(2), 103-112.

Reviews studies concerning the presence of sexism in social studies materials. Research concerning the following topics was cited: knowledge of women's role, achievement differences of males and females, career goals, interaction of teachers with male and female students, and stereotyping in social science materials. Suggestions for reducing sexism in social studies materials and classes were included.

ROSE, MAXINE S. Sexism in five leading collegiate dictionaries. *College Composition and Communication*, December 1979, 30, 375-379.

Analyzes five collegiate dictionaries published between 1970 and 1976 for terms dealing with the women's movement, new words arising from the movement, women in dictionary biographies and in pictorial illustrations, and sexist language. Examples of the five foregoing categories are included. Dictionaries include many terms considered biased in sexism.

SADKER, MYRA P.; SADKER, DAVID M.; & HICKS, TOM The one-percent solution? Sexism in teacher education texts. *Phi Delta Kappan*, April 1980, 61, 550-553.

Reviews widely used teacher education textbooks to ascertain quantitatively and qualitatively the treatment of sex equity in their contents. A content analysis instrument was applied to every page in each of 24 books in seven educational areas: foundations of education, psychology of education, and methods courses for reading, language arts, social studies, science, and mathematics. Over 95% of these books devote less than one percent of book space to the issue of sexism. None provided strategies for counteracting sexism in the classroom. Twenty books continued to use sex-biased language. Less than one percent of the space is devoted to racial and ethnic minorities.

FOREIT, KAREN G.; AGOR, TERNA; BYERS, JOHNNY; LARUE, JOHN; LOKEY, HELEN; PALAZZINI, MICHAEL; PATTERSON, MICHELE; & SMITH, LILLIAN. Sex bias in the newspaper treatment of male-centered and female-centered news stories. *Sex Roles*, June 1980, 6, 475-480.

Examines differences in the newspaper treatment of men and women in two sets of stories collected a year apart in 1976 and 1977. In the first study, data were taken from 50 male-principal and 50 female-principal news stories; in the second, all national wire service stories were analyzed. Chi-square and t-tests were used to analyze the data. In both studies coverage of women was more likely to include mention of personal appearance, marital status, spouse, age, and children than was the coverage of men. These differences were found in locally written and wire-service stories and could not be attributed to the greater number of men in the stories or the sections of the newspaper in which they were found.

GEISE, L. ANN. The female role in middle class women's magazines from 1955 to 1976: a content analysis of nonfiction selections. *Sex Roles*, February 1979, 5, 51-62.

Analyzes female role models in 160 nonfiction articles in two middle class women's magazines published in January issues using a three-year interval between 1955 and 1976. Each article was evaluated by the values it supported either by advice given or by behaviors of women meant to be admired by readers. Differences in the 136 value statements between the two time periods of 1955-65

and 1966-76 and between the two magazines were determined; results were reported for 12 basic issues. The articles reflected changes paralleling those occurring in American society. A decline in the number of traditional views and an increase in more liberal outlooks were noted.

REID, LEONARD N., & SOLEY, LAWRENCE C. *Sports Illustrated's* coverage of women in sports. *Journalism Quarterly*, Winter 1979, 56, 861-863.

Compares the coverage of women in sports in *Sports Illustrated* over the period 1956-1976. Feature articles in the first issue of each month in six 4-year periods, or a total of 72 issues, were analyzed for total number of articles per issue, sex-role focus of each article, number of pages, and type of sport. A total of 424 articles (2224 pages) was analyzed. No significant differences were found in the percentage of articles or number of pages devoted to women within the time periods.

ANSELLO, EDWARD F. Old age and literature: an overview. *Educational Gerontology: An International Quarterly*, July/September 1977, 2, 211-218.

Considers the research and writing on old age as found in literature for young children to adults. The cultural stereotype of the aged was found to be reflected in the materials even today.

RIBOVICH, JERILYN K., & DEAY, ARDETH M. Portrayal of the elderly in basal readers. *Reading Psychology*, Fall 1979, 1, 32-40.

Examines six basal reading series, preprimer through grade six, published in 1976, 1977, and 1978 for the frequency and quality of the portrayal of elderly characters, especially those in a principal role. Of the 1600 selections examined, 16% contained old people, 6% being central characters. Their portrayal was generally positive as the main characters were described as being healthy, active, and successful. Considerable stereotyping in physical characteristics was found in the illustrations but not in the text. Women and minority groups were inadequately represented. Few differences were found between the primary and intermediate grade selections, except in the latter the female characters were more successful than male characters.

CHARLES, DON C., & CHARLES, LINDA A. Charles Dickens' old people. *The International Journal of Aging and Human Development*, 1979-80, 10(3), 231-237.

Identifies 121 characters, 50 years or older, in 16 novels, four shorter fiction pieces, and one other work of Charles Dickens. Characters were classified into four levels of involvement: protagonist, essential or important, involved in the main plot or important in a subplot, minor character. An evaluation was made of the attributes of each character as to role, personality, characteristic behavior, and cumulative impression. The analysis revealed that the characters (two-thirds male, one-third, female) tended to be concentrated at the minor level of involvement in plots but represented a large range of behavior. They were fully engaged in life and society and were not age-stereotyped.

AGUIRRE, BENIGNO E. Ethnic newspapers and politics: *Diario Las Americas* and the Watergate affair. *Ethnic Groups*, May 1979, 2, 155-165.

Compares the coverage of Watergate in an ethnic foreign language newspaper and a metropolitan English one, both serving the same area, in form and content. The newspapers sampled were those published on odd numbered days during a ten-week period; front page articles and headlines were classified. No marked

differences were found in the proportion of Watergate articles published, in the placement of the articles, or in the type of headline used. The ethnic paper was less critical of the former president than the metropolitan English paper.

STOVALL, JAMES GLEN. Conflict in the colonies: the London Times coverage of Watergate from the break-in to the pardon. *Gazette*, 1979, 25(4), 209-218.

Analyzes the reporting in the London *Times* of Watergate. It was concluded that the coverage was complete and thorough from the beginning to the end of the American situation. The newspaper was divided editorially in its attitudes toward the President and Watergate, changing from support of the President to recommending his resignation. The strength of the Watergate coverage by the *Times* was the editors' and reporters' understanding of the intricacies of the American political system.

HARTUNG, BARBARA W., & STONE, GERALD. Time to stop singing the "bad news" blues. *Newspaper Research Journal*, February 1980, 1, 19-26.

Analyzes almost 3,000 stories from front and one inside pages in nine southern California newspapers to determine the extent of good and bad news included during one month. Telephone interviews were conducted with 559 subjects, randomly selected from local telephone books to ascertain which of two stories, representing good and bad news, they remembered. The major findings of the study were that there is little difference in the amount of good news and bad news published in newspapers and little difference in public impact by these two types of stories.

CROMER, GERALD. Character assassination in the press. In Charles Winick (Ed.) *Deviance and mass media*, Vol. 2. Beverly Hills, California: Sage, 1978. Pp. 225-241.

Reviews research concerned with kinds of newspaper coverage given to different groups of criminals and deviants. Included are references to studies which represent different stages of character assassination: prejudicial publicity, status degradation, role of the press, destruction of the individual, personality of the suspect, and the panic which follows.

GRABER, DORIS A. Is crime news coverage excessive: *Journal of Communication*, Summer 1979, 29, 81-92.

Analyzes crime stories in one Chicago and one small New Hampshire newspaper six days per week for an entire year; two other Chicago papers for a constructed week; and two Indianapolis ones, coded every fourth day. The print analysis was complemented by an analysis of three national television network and two local Chicago newscasts six nights per week. Topics were coded into 26 categories under four general headings: crime and justice, government/politics, economics/social issues, and human interest/hobbies. Crime news did not displace the coverage of other news content but did not present crimes in proportion to which they were actually committed. A disproportionate emphasis was placed upon street crime as compared to white collar crime. Substantial similarity in the types of crime news presented was found among the newspapers and by the newspapers and television.

SHERIZEN, SANFORD. Social creation of crime news: all the news fitted to print. In Charles Winick (Ed.) *Deviance and mass media*, Vol. 2. Beverly Hills, California: Sage, 1978. Pp. 203-224.

Examines the process of gathering and publishing crime news and analyzes the content of such news in three Chicago metropolitan papers and one black community newspaper. More than 1,000 crime stories were taken from the final editions

of each paper for every third month. Many more crimes are committed, according to official statistics, than are reported. Suspects were seldom described in detail. The police were cited most often as the sources of news; the emphasis in the newspaper on the details of the crime appeared to be from the police view of the act. Crime stories were found most often in the most important sections of the newspapers with over 50% being on the first three pages.

RUSSONELLO, JOHN M., & WOLF, FRANK. Newspaper coverage of the 1976 and 1968 presidential campaigns. *Journalism Quarterly*, Summer 1979, 56, 360-364, 432.

Analyzes campaign coverage, presidential and vice-presidential, for four weeks prior to the 1968 and 1976 elections in the *New York Times*, *Chicago Tribune*, and *Chicago Sun-Times*. News items were classified into four major categories: the horserace (campaign considered a contest); issues (substantive news coverage, including policy statements); candidates' personal qualities; and other (references to election procedures). The analysis of the 974 articles in 1968 and 718 in 1976 included the identification of the major theme of each article and of each paragraph within the articles. In 1968, of the major themes of the entire articles related to presidential candidates, 56% were classified as horserace; 39%, issues; and other, 6%. In 1976, 47% were categorized as horserace; 46%, issues; and 7%, other. The vice-presidential coverage was categorized in a similar way. The character of the coverage was uniform across the three papers.

FEDLER, FRED; MEESKI, MIKE; & HALL, JOE. *Time* magazine revisited: presidential stereotypes persist. *Journalism Quarterly*, Summer 1979, 56, 353-359.

Replicates a study published in 1965 of bias techniques used in *Time* magazine concerning the presidents of the United States. The treatment of Presidents Johnson, Nixon, Ford, and Carter was examined in ten consecutive issues in randomly selected years; the treatment of the Nixon administration was analyzed both before and after Watergate. Three judges evaluated separately 187 news stories, photographs, and cartoons. It was found that *Time* continues to favor Republican presidents and to use the same techniques of bias: contextual, attribution, opinion, adjective, adverb, cartoon, and photograph. The bias techniques were used to create a stereotype of each president.

MALANEY, GARY D., & BUSS, TERRY F. AP wire reports vs. CBS TV news coverage of a presidential campaign. *Journalism Quarterly*, Autumn 1979, 56, 602-610.

Compares news coverage of AP wire reports with that of CBS television for the last part of the 1972 presidential elections. The 4,473 AP stories and 1,065 CBS stories were analyzed for frequency and amount of coverage, favorableness, and sources of news. It was concluded that the structural differences of the two media may be associated with the kind of coverage each typically provided. The wire service focused more upon issues and candidate images than television coverage did. Both media tended to rely upon party sources for candidate news, but different kinds of news sources were noted for the two candidates.

MORRIS, ROGER. Eight days in April: the press flattens Carter with the neutron bomb. *Columbia Journalism Review*, November-December 1978, 17, 25-30.

Concludes from an analysis of two newspapers that during one week leaks concerning the neutron bomb helped to shape major foreign-policy decisions. Evidence was included that reporters failed to investigate, analyze, and verify a national security story which had wide implications for defense and foreign policy. The leaks which came from the Pentagon and the State Department became front page news of the two newspapers analyzed and influenced coverage in other newspapers. Media coverage was reported to be superficial.

DRECHSEL, ROBERT; NETTEBURG, KERMIT; & ABORISADE, BISI. Community size and newspaper reporting of local courts. *Journalism Quarterly*, Spring 1980, 57, 71-78.

Analyzes newspapers published during one month in every county seat in Minnesota except Minneapolis, St. Paul, and Duluth (52 weeklies, five semi-weeklies, 23 dailies) to determine the quantity and type of local court reporting. An index score was devised to indicate the degree to which the stories called attention to the social disruption evidenced by the litigation. Of the 428 newspaper issues analyzed, 51% were concerned with information about local courts. Approximately one-fifth of the newspapers contained no court coverage. Only one side of a court case (generally the prosecution side in criminal cases) was reported. Civil cases were more likely to get balanced coverage than criminal cases.

HARTMANN, PAUL. Industrial relations in the news media. *Industrial Reading Journal*, Winter 1975-1976, 6, 4-18.

Reports the findings of an analysis of industrial relations news in five daily newspapers, including the Communist party newspaper, and three examples of broadcast news in England. A total of 1,224 items was analyzed for length in column inches, main and subtopics, types of participants included, people quoted, and causes and effects of the action described. Each news item was classified into one of ten categories according to main topics. Two categories accounted for 63% of the items: industrial action and actions and statements of unions. The patterns of coverage were broadly similar across all papers and programs.

GOLDING, PETER, & MIDDLETON, SUE. Why is the press so obsessed with welfare scroungers? *New Society*, October 26, 1978, 46, 195-197.

Analyzes welfare and social security news stories appearing on British television, in the national press, and in the local press and radio of two cities. The analysis covers the last six months of 1976. Slightly over 30% of all stories dealt with social security abuse and 12.6% with legal proceedings. The analysis notes the general skepticism and frequent open hostility to the welfare and social security system.

RYAN, MICHAEL. Reports, inferences and judgments in news coverage of social issues. *Journalism Quarterly*, Autumn 1979, 56, 497-503.

Investigates the language used in 132 event-oriented and 139 issue-oriented news stories published in eight metropolitan daily newspapers having circulations exceeding 300,000. Each story dealt with one of eight different social problems. The study explored the percentage of sentences in event-oriented and issue-oriented stories that fell into eight sentence types: attributed reports, opinions, inferences, and judgments; and unattributed reports, opinions, inferences, and judgments. The percentages of unattributed sentences were significantly larger than the percentages of attributed sentences, which was in the direction opposite to that predicted. No source was attributed to 61.3% of the 4,761 sentences analyzed by three coders. In event-oriented stories 18.3% of the stories were categorized as opinion.

RENFRO, PAULA COZORT. Bias in selection of letters to editor. *Journalism Quarterly*, Winter 1979, 56, 822-826.

Compares in a case study published and unpublished letters to the editor of a group-owned metropolitan daily newspaper to determine whether minority groups are represented in the published letters, special interest groups are protected by the editor, or certain topics are omitted. Each letter was coded for its content into 14 categories and for the attitude of the author toward the topic (positive,

negative, neutral). During the four-month period, 68% of the 952 letters received were published. Most of the letters received (56%) and published (53%) were negative. Minority issues received equal access to the letters column; no special groups were favored.

NORTON, WILL, JR.; WINDHAUSER, JOHN; & MAY, HAROLD. An analysis of future-oriented content in selected U.S. metropolitan daily newspapers. *Newspaper Research Journal*, May 1980, 1, 85-93.

Questions whether newspapers neglect topics on the future and what issues a newspaper should publish. A total of 1,461 issues of 12 newspapers during one year was analyzed for future-oriented stories; the topic of each story was coded into one of 12 categories. To determine which future-oriented topics newspapers should cover, 96 members of the World Future Society living in the United States responded to a survey. Newspapers are past- and present-oriented and neglect the future as only one future-oriented story appeared for every two papers. The most coverage was found in the categories of economic activity, science, and health and welfare. A comparison of the results of the content analysis and of the survey of futurists revealed considerable agreement.

COMBS, BARBARA, & SLOVIC, PAUL. Newspaper coverage of causes of death. *Journalism Quarterly*, Winter 1979, 56, 837-843, 849.

Compares the amount of newspaper coverage of various causes of death to the statistical frequencies and to people's judgments of the frequencies of the causes, the latter being taken from an earlier study. Coders examined two daily newspapers, one published on the east coast and the other on the west coast, and recorded the following information for each article: date, cause of death, number of occurrences, number of deaths for each occurrence; geographic location; column inches and width; number and size of photograph. The frequency with which each newspaper reported causes of deaths differed considerably from the statistical frequencies and the people's estimates. Violent causes were overestimated; diseases were underestimated.

DAUGHERTY, DAVID, & WARDEN, MICHAEL. Prestige press editorial treatment of the Mideast during 11 crisis years. *Journalism Quarterly*, Winter 1979, 56, 776-782.

Analyzes 644 unsigned editorials concerned with the Middle East published in four prestigious United States newspapers between January 1, 1967, and December 31, 1977. Editorials were coded into one of eight content categories and into one of five editorial position classifications. A further analysis was conducted of the 332 editorials dealing with the Israeli-Arab conflict. Frequencies of occurrence in the different categories were reported for each newspaper. More editorials were published when key events occurred. A predominant theme in all four newspapers was the urging of a negotiated peace between the belligerent countries.

MISHRA, V. M. News from the Middle East in five U.S. media. *Journalism Quarterly*, Summer 1979, 56, 374-378.

Content analyzes 5,902 news items about the Middle East in the Chicago Tribune, Los Angeles Times, New York Times, Washington Post, and CBS television for three weeks in 1971. Statements within the news items were coded into eight content categories. An average of 5% of all news items dealt with the Middle East. The content consisted mostly of hard news (66%) and background stories (15%). The coverage was concentrated on Israel, Egypt, and Iran with the highest percentage of items being devoted to the Arab-Israeli conflict followed by those on foreign

politics. Most items dealing with politics were treated in a neutral manner; more economic, social, and national developments were treated positively than negatively.

BROWN, TREVOR. Did anybody know his name? U.S. press coverage of Biko. *Journalism Quarterly*, Spring 1980, 57, 31-38, 44.

Presents a case study of press coverage of Steven Biko, a black South African leader, before and after his death. In obituaries appearing in a number of United States newspapers, Biko was acclaimed as his nation's most influential black leader and a moderate. The *New York Times* and the *Washington Post* were analyzed to determine what had been reported about him earlier. Although coverage of Africa was extensive between 1969 and 1977 in both newspapers, each newspaper carried only one article about Biko before his death. In these two articles he was characterized as a radical. Neither newspaper provided readers with adequate understanding of Biko and the organization with which he was associated.

HESTER, AL; HUMES, SUSAN PARKER; & BICKERS, CHRISTOPHER. Foreign news in colonial North American newspapers, 1764-1775. *Journalism Quarterly*, Spring 1980, 57, 18-22, 44.

Determines the amount of foreign news, its subject categories, its point of origin, its placement within the three colonial weekly newspapers analyzed, and the time-lapse between event and publication. A total of 4,398 foreign news items from four issues of each newspaper per year was analyzed and classified into one of 16 subject categories. A preponderance of the news came from Western Europe, especially Great Britain, with only minor amounts of news coming from the remainder of the world. Three subjects accounted for two-thirds of the foreign stories: domestic government-politics, war defense, and foreign relations.

PIOTT, STEVEN I. The lesson of the immigrant: views of immigrants in muckraking magazines 1900-1909. *American Studies*, Spring 1978, 19, 21-33.

Focuses upon the lesser known, immigrant-related fiction appearing in popular muckraking magazines during the first decade of this century. Innocent immigrants were used to show the horrors of industrial capitalism and to point out the need for reform of the environment and the conditions that furthered oppression. The writers sought to regain lost values, such as reestablishing moral responsibility; emphasized the need to develop actively-concerned citizens to stimulate democracy; attacked ethnic prejudice; stressed the value of education; and depicted the valuable contributions of the immigrants. The analyses of various pieces of fiction were included.

PRATT, C. B. The reportage and images of Africa in six U.S. news and opinion magazines: a comparative study. *Gazette*, 1980, 26(1), 31-45.

Analyzes the contents of three news magazines and three opinion journals for news and opinions about Africa during 1976. The units of analysis were the news stories, editorial opinions, and articles; the newshole measurement used was the square column centimeters measure. The magazine material was classified into eight categories. The opinion magazines devoted more space to Africa than the news magazines did. All of the magazines projected Africa as struggling against divisive forces. The small amount of coverage of Africa and the emphasis on violence portrayed the continent negatively.

PINCH, EDWARD T. The flow of news: an assessment of the non-aligned news agencies pool. *Journal of Communication*, Autumn 1978, 28, 163-171.

Examines procedures and content of the Janjug news pool, the forerunner of the Non-Aligned News Agencies Pool serving Third World countries and the largest section of the new Pool. Each of the 327 stories, selected every eighth day during a three months period, was analyzed for content and evaluated on the basis of its potential appeal to Western media outlets (high, medium, low appeal). Although the Pool is comprised of 41 agencies, 60% of the Pool's content was contributed by seven countries. Of the items analyzed, 22% had high appeal; 26%, medium; and 52%, low. Little overt bias toward the United States was noted in the Pool stories.

WOLFE, G. JOSEPH. 'War of the Worlds' and the editors. *Journalism Quarterly*, Spring 1980, 57, 39-44.

Presents a case study of the editorial reaction to H. G. Wells' "War of the Worlds" dramatized on radio in 1938. In general, the editorials were more critical of the public than of broadcasting. From their analysis of the editorials, three reasons were given for the listeners' behavior: his gullibility, the threat of war, and the technique of the broadcast. Radio received a lecture by newspapers on the relationship between freedom and responsibility. Genuine concern was shown for a competing medium of communication.

MARQUEZ, F. T. Cross-cultural research: a decision factor in standardized versus non-standardized global advertising. *Gazette*, 1979, 25(3), 150-162.

Analyzes cultural contents of 2,359 display advertisements in newspapers and magazines published in the United States, Philippines, and Thailand. The nine parameters used in the analysis were male-female roles, concepts of masculinity and femininity, personality type, family type, social class, ethnocentrism, concepts of time and space, and racial image. A composite cultural content from the advertisements in these three diverse countries portrayed the foregoing aspects of culture in a strikingly identical manner.

GIFFORD, CHARLES S., & GIFFORD, JUNE W. Emphases in reading education: a systematic investigation. *Reading Improvement*, Spring 1980, 17, 2-5.

Analyzes 459 articles published in three reading education journals between June, 1976 and June, 1978. Topics emphasized in order of frequency were material descriptions, comprehension, program designs, testing/evaluation, teacher variables, affective domain, reading in content areas, phonics, readability, and bilingual concerns. Most of the articles were written by college or university personnel (72.3%), were descriptive (50%), and were concerned with instructional issues (62%).

LOWRY, DENNIS T. An evaluation of empirical studies reported in seven journals in the '70s. *Journalism Quarterly*, Summer 1979, 56, 262-268, 282.

Analyzes and evaluates the quality of 301 empirical research articles in seven communication journals published in the United States between 1970 and 1976. Seven measures of quality were used in the evaluation. It was found that communication researchers emphasized only a few types of design, with 87% using a cross-sectional approach. Sample surveys were used exclusively by 30% of the researchers; 42% relied exclusively on subjective reports as sources of their data, primarily paper-and-pencil measures; 65% focused on one level of analysis, the individual; 11% were longitudinal; 88% were conducted in the United States; 74% cited literature exclusively from the United States.

COLOTLA, VICTOR A. Psychology of the scientist: XLII. Scientific eminence and reading ease. *Psychological Reports*, February 1980, 46, 211-216.

Evaluates whether the frequency of reprinted articles in 30 books of readings in introductory psychology is an adequate measure of scientific eminence of the writer. Records were made of the names of all authors, the number of their articles reprinted, and the number of books including an article by each. A total of 1092 authors contributed 1900 articles. A majority (73.3%) had one publication reprinted. Of the remaining 26.7% 22 writers had a minimum of eight publications included. Many were considered eminent by other criteria; therefore, the variable in this study seems an appropriate measure of scientific eminence. Since several noted psychologists did not have articles reprinted, it was hypothesized that articles were reprinted because of the readability of the article as well as the eminence of the author.

OROMANER, MARK. When publications perish. *Scholarly Publishing*, July 1979, 10, 339-344.

Examines the distribution of citations to individuals in 47 articles in the *American Sociological Review* (1970) and 39 articles in *Social Forces* (1969-70). In these articles 1614 individuals were cited with three-fourths of them being cited in one article while 2.2% were cited in six or more articles. In a second study, full-length articles in ten sociological journals between 1961 and 1970 were examined for citations of 145 articles appearing in three core journals during 1960. One-third of the studies received no citations during the first ten years after publication. Only 12% were cited in more than ten articles. None of the articles was cited in all ten journals.

LEVY, EMANUEL. The role of the critic: theater in Israel, 1918-1968. *Journal of Communication*, Autumn 1979, 29, 175-183.

Describes and explains the roles and functions of theater criticism in Palestine and Israel during the 50-year period from 1918 to 1968. The 234 plays reviewed in Israel's three major newspapers during this time period were analyzed according to the inclusion of ideological criteria and classified according to the time each was published. The findings revealed marked differences between criteria used by critics in the pre-state and post-state eras. Between 1918 and 1948 most plays were distinctly Jewish (59%) and were judged by ideological criteria (67%). Between 1949 and 1968, 41% of the productions were judged by ideological criteria. In this era, the types of plays presented (Jewish or non-Jewish) were more determinant of the nature of the review than the newspaper in which it appeared.

O'DONNELL, ROY C. A survey of research in the teaching of English, volumes 1-10. *Research in the Teaching of English*, February 1980, 14, 82-88.

Surveys the research published in the first ten volume years of *Research in the Teaching of English*. Categorizes the articles in two different ways, one according to the different sub-topics of English and language arts, and the other according to the various pedagogical concerns of the researchers. About 12% of the articles appearing in the first ten years of the journal were devoted to reading. When analyzed according to research design, the largest number, 25%, were found to be analytical comparison studies and another 22% were categorized as review-commentary articles.

III-3 Readability and legibility

WALKER, NOOJIN. Readability of college general biology textbooks: revisited. *Science Education*, January 1980, 64, 29-34.

Replicates a 1960 study of the readability of college biology textbooks. The Flesch Readability formula was applied to eight textbooks identified as the most popular through correspondence with officials from 56 colleges. No significant difference in grade-level readability between the 1960 and 1978 textbooks was found. In the subjective evaluation of the human interest level, six of the eight 1978 textbooks were labeled dull. The investigator concluded that college biology textbooks were written for peers of the writer, not students.

MCBRIEN, ROBERT J. Readability of Dreikursian parenting literature. *Journal of Individual Psychology*, November 1979, 35, 235-241.

Uses Cramer's and Trent's Readability Rater to determine the readability of 13 parenting literature textbooks. The difficulty ranged from 8.0 to 12.3 grade levels, with the average readability being 10.4. Recommendations for use of the analyzed materials with parents were included.

CHRIST, WILLIAM G., & PHARR, PAULA. Readability of brochures produced by State of Florida. *Journalism Quarterly*, Spring 1980, 57, 159-160.

Determines the readability of public information brochures produced by seven departments of the state of Florida. The Flesch Reading Ease Formula and the Dale-Chall Formula were applied to five randomly chosen brochures from each department. According to the Dale-Chall formula the difficulty of the materials ranged from ninth to fifteenth grade; according to the Flesch formula, from standard to very difficult.

FOWLER, GILBERT L., JR., & SMITH, EDWARD J. Readability of newspapers and magazines over time. *Newspaper Research Journal*, November 1979, 1, 3-8.

Compares the readability of three newspapers (*Chicago-Tribune*, *New York Times*, *Memphis Commercial Appeal*) and three magazines (*Cosmopolitan*, *Atlantic Monthly*, and *Harper's Weekly*) for the years of 1904, 1933, and 1965. Readability was determined by the application of the Flesch formula to 135 randomly selected passages from each of the magazines and front pages of newspapers, divided evenly for the three time periods. Newspapers were found to be significantly more difficult to read than magazines. Newspapers differed significantly in difficulty and were easier to read in 1904 and in 1965 than in 1933; the readability of the magazines remained fairly constant.

BAIN, CHIC, & WEAVER, DAVID H. Readers' reactions to newspaper design. *Newspaper Research Journal*, November 1979, 1, 48-59.

Tests reader reaction to new design publishing techniques and compares these methods with older ones. Interviews with 551 university students were conducted to determine their reactions to headline typography, size of pictures, preference of type, and use of color in three different sets of stories. The subjects read more of the front page when the stories started and ended in the same place; but when the stories were very interesting to them, the readers finished stories continued on other pages. Larger photos attracted more readers to the accompanying stories. No one headline pattern proved to be better than another.

WENDT, DIRK. An experimental approach to the improvement of the typographic designs of textbooks. *Visible Language*, 1979, 13(2), 108-133.

Tests three different approaches to improve the legibility of German physics textbooks for secondary schools; two columns of 58 mm line width instead of one column of about 126 mm line width, insertion of additional space between the parts of sentences to show phrases, and visualizing the information by structuring it vertically and horizontally so that the total design is more appropriate to the visual medium. Six hundred students, grades six to eight, in 18 classes in five secondary German schools read one of the versions of the experimental materials under timed conditions. Dependent variables were reading time and achievement test scores. All were shown all four versions, including the original, for their preference. Only the visualization form showed an improvement over the standard version.

LARCHER, JEAN. A different way of looking at typography. *Visible Language*, 1979, 13(2), 184-191.

Presents letter designs which retain the aesthetic qualities of individual, hand-drawn designs in the form of logotype. The designs were influenced by studies of calligraphy and optical illusions and by American designers. When well conceived, the letter forms convey a message, serve as an illustration, and tell a visual story.

III-4 Reading interests, preferences, and habits

COLE, JOHN Y., & GOLD, CAROL S. (Eds.) *Reading in America 1978*. (Selected findings of the Book Industry Study Group's 1978 study of American book-reading and book-buying habits.) Washington: Library of Congress, 1979.

Summarizes the results of the Consumer Research Study on Reading and Book Purchasing conducted in 1978 by Yankelovich, Skelly and White, Inc. for the Book Industry Study Group, Inc. Results include the reading and book-buying habits and motivations of the American public.

HUNSAKER, ALAN. Enjoyment and information gain in science articles. *Journalism Quarterly*, Autumn 1979, 56, 617-619.

Hypothesizes that skilled science writing can increase reader enjoyment of scientific journal material without a decrease in reader information gain. The 71 community college introductory psychology students read one of three versions of the same content: a formal journal article, one modeled on a typical *Science News* article, and the third modeled on a typical *Science* article. All subjects answered the same questionnaire which was comprised of questions concerning their enjoyment of the article and information gained from the article. The hypothesis was sustained. Reader enjoyment increased as the article became more popularized; no decrease in information-gain accompanied the increased interest in the reading.

SINGER, ELEANOR, & GLASSMAN, MARC B. Report on the POQ readership survey. *Public Opinion Quarterly*, Spring 1980, 44, 129-133.

Reports the results of a mail questionnaire survey to 457 subscribers of the *Public Opinion Quarterly* to determine characteristics of its readers and their likes and dislikes about the journal. The subjects were asked to indicate for every article in one issue of the journal whether or not they had read or had tried to read it.

They evaluated the journal along five dimensions with methodology receiving the highest rating and interest and substantive contribution the lowest. Book reviews were the most popular feature. Academics preferred the journal to those working under commercial auspices; sociologists and political scientists evaluated the journal most favorably.

HARVEY, RHONDA L., & DUTTON, DONNIE. Reading interests of older adults. *Educational Gerontology*, July/September 1979, 4, 209-214.

Reviews research about the reading interests of older adults. The small number of studies tend to support the conclusion that older adults prefer light romance, biographies, books in large print, westerns, mysteries, travel books, fiction, the Bible, and newspapers. They do not enjoy science fiction, depressing books, books containing sex or violence, and books with confusing plots or numerous characters. Interests varied widely among the readers.

JOURNAL OF READING. Reading habits in Norway. March 1980, 23, 531-532. (These data are taken from pages 45-62 of *Lesing og kommunikasjon: Kort rapport om Den norske Bokklubbens leversosiologiske undersøkelse* by Øystein Noreng, published in 1974 by the Norwegian Book Clubs, Lysaker, Norway, and reporting on research undertaken in 1971-72 in conjunction with the Norsk Gallup Institutt.)

Abstracts a survey of 1200 Norwegian citizens' reading habits and interests. Reports that 69% are regular book readers, 31% were reading a book at the time of the interview and 38% had read at least one book in the preceding three months. Only 12% said that they never read books. The figures are contrasted to survey results in France and the U.S. (where 55% had read a book in the preceding six months and 39% said they never read books). Other notable data are reported.

III-5 Readership

BOOK INDUSTRY STUDY GROUP, INC., THE. *The 1978 Consumer Research Study on Reading and Book Purchasing: a study inquiring into the nature of reading and book buying habits of the American public*. Darien, Connecticut: Prepared by Yankelovich, Skelly and White for The Book Industry Study Group, 1978.

Reports findings of a large scale study sponsored by The Book Industry Study Group and designed to give information on newspaper, magazine and book reading and book purchasing habits in the United States. A survey was conducted in which 1450 individuals who formed a representative sample of the general U.S. public age 16 and over were interviewed. The interview was approximately one hour in duration and was conducted in 165 cities. The survey identified six percent of respondents as complete nonreaders of any material and another 39% as non-book readers. A total of 25% read ten or more books in the six months prior to the survey and another 30%, one to nine books. Book readers tended to be white females who were well educated and affluent. They tended to engage in a wide range of leisure time activities, including TV viewing. Nonbook readers were less engaged in all areas of reading than were book readers and identified reading with information gathering. They tended to be older, not well educated, and nonwhite. Half of the population had visited a bookstore in the six months prior to the survey, including nonreaders and nonbook readers. Numerous other findings are presented in the report which also includes a review of previous research in the area.

MCEVOY, GEORGE F., & VINCENT, CYNTHIA S. Who reads and why? *Journal of Communication*, Winter 1980, 30, 134-140.

Determines the extent and kinds of readership among 1,450 adults, aged 16 or over, in the United States. The vast majority (94%) was involved in some form of reading, 39% reading only newspapers and/or magazines and 55% reading books as well as periodicals during the last six months before they were interviewed. Book readers were classified as light book readers (30%) who had read one book and moderate/heavy book readers (25%) who had read at least 25 books during the time period. Book readers were likely to be young, white, female, well-educated, and in higher income brackets. They were involved in a wide range of leisure activities and in organizations.

MCCOMBS, MAXWELL E., & EYAL, CHAIM H. Spending on mass media. *Journal of Communication*, Winter 1980, 30, 153-158.

Traces the patterns for consumer spending for mass media during the last decade to determine whether the changes in personal income and leisure time over recent decades have changed the marketplace for the mass media. Data used are national statistics for consumer expenditures between 1968-1977 from the U.S. Department of Commerce. The total amount spent by all Americans for all mass communication has more than doubled since the beginning of the last decade with the spending for print paralleling the general trend for all mass communication. Spending on newspapers and magazines nearly tripled, but spending on books and maps did not double. When controlled for population growth and inflation, the disparities in spending on books and magazines are more pronounced. It was concluded that the trends in spending on mass communication reflected public appreciation of reading.

ROBINSON, JOHN P. The changing reading habits of the American public. *Journal of Communication*, Winter 1980, 30, 141-152.

Reviews research and analyzes National Opinion Research Center data to determine if readership of newspapers, magazines, and books has changed between 1946 and 1977. Decline of the daily newspaper reading habit began in the 1950s, but the sharpest decrease was between 1967 and 1977, with the 20-29 age group showing the greatest decline. During the last decade an increase in the frequency of and time spent in reading books and magazines was shown; these increases did not offset the decrease in newspaper reading. It was concluded that reading appears to be a less prominent feature in people's daily lives as total reading times recorded in the subjects' diaries decreased from almost 50 minutes per day in 1954 to 30 minutes in 1975/76. The numbers of subjects in the surveys ranged from 973 to 5021.

POINDEXTER, PAULA M. Newspaper readership and circulation: an update: 1977-79. *ANPA News Research Report*, September 28, 1979, No. 22, 2-5.

Uses 64 studies published since 1976 to update an earlier study which mapped out the 1950 through 1976 research literature concerning newspaper readership and circulation. Among the comparisons of 118 findings in the two studies are the following: questions asked, variables researched, reader behavior, approaches used, information gained. Included is a table in which the 17 dependent and 15 independent variables are combined to produce 255 types of readership and circulation research. Only 56 of the 255 cells contain studies. No bibliography is included in the report.

SCHWARTZ, STUART H.; MOORE, ROY L.; & KREKEL, THOMAS H. Life style and the daily paper: a psychographic profile of midwestern readers. *Newspaper Research Journal*, November 1979, 1, 9-18.

Profiles life styles and readership habits of 349 adults from two suburban midwestern communities who were interviewed by telephone. They responded to questions concerned with their activities, community identification, media use, work, family, social attitudes, and quality of life. Four types of newspaper readers were identified and described. Type I subjects are heavy readers of housing ads, astrology features, puzzles, games and classified advertising. Type II reads a large number of content categories frequently and spends more time reading the newspaper than the other three groups. Type III reads business news, editorials, comics, national and local news, book reviews, art, music. Type IV readers prefer business sections and sport stories. It was concluded that newspaper readership can generally be associated with life style.

STEVENSON, ROBERT L. Newspaper readership and community ties. *ANPA News Research Report*, March 9, 1979, No. 18, 2-6.

Inquires of 499 adults in Charlotte, North Carolina, their reasons for reading or not reading newspapers. From this telephone survey three broad groups of readers were identified: traditional newspaper audience whose reading is hard news, editorials, background features; mobile readers who use newspapers for entertainment; and peripheral readers who use the newspaper to maintain links with the community and to fill time. The practice of using newspapers is largely learned in childhood, but changes take place later in life. The gain in readers from non-readers is offset by the loss of once-regular readers; however, lost readers often subscribe to other papers when they move to different communities.

STONE, GERALD C., & WETHERINGTON, ROGER V., JR. Confirming the newspaper reading habit. *Journalism Quarterly*, Autumn 1979, 56, 554-561, 566.

Investigates whether newspaper reading is a habit (a behavior that tends to be repeated regularly in about the same way) and its characteristics. Interviews were conducted with 202 university students in California to explore their reading habits and their parents' habits. Traits of these students related to reading the newspaper habitually include: reading a daily more than 15 minutes per day for three or more days a week, having a stable method of obtaining the paper, and having a particular time and special place to read the newspaper. The data showed that the newspaper reading habit appears to be fixed by the time a person reaches the late teens and is dependent upon the tradition of newspaper reading in the home.

POINDEXTER, PAULA M. Daily newspaper non-readers: why they don't read. *Journalism Quarterly*, Winter 1979, 56, 764-770.

Analyzes reasons 510 adult subjects in nine cities gave in two studies for avoidance of the daily newspaper. Nonreaders were those who stated in interviews that they never or seldom read the newspaper. In the first study 326 subjects answered an open-ended question concerning their reasons for not reading the newspapers. In the second study 184 nonreaders answered a check list which included responses subjects gave in the first study and which measured avoidances in six areas: interest, time for reading, use of other media, newspaper content, newspaper bias, newspaper circulation. In both studies, lack of time, preference for another news medium, and lack of interest were the principal reasons given. Two types of nonreaders were found: the typical, with low incomes, educational attainments, and either young or old; the atypical, who cited lack of time as their reason for not reading newspapers.

BOGART, LEO. The '80s: readership. *Presstime*, January 1980, 2, 24-25.

Predicts that for every 100 newspapers sold in 1980, 120 will be sold ten years from now and gives reasons for the prediction. Even though newspaper circulation remained comparatively static in the 1970s, circulation in the '80s can be expected to surge because of changes in the number of people in different age groups with different patterns of living and different newspaper reading habits, changes in the way in which people live together as consuming units, changes in where they live, and changes in their educational attainments and purchasing power.

HALE, F. DENNIS. An examination of the perceptions of newspaper advertisements. *Newspaper Research Journal*, February 1980, 1, 59-64.

Determines readership of newspaper advertising of 210 subscribers to a Texan newspaper through a self-administered questionnaire. The subjects indicated whether they spent more, less, or about the same amount of time in reading advertisements and news; rated the quality of seven content categories of the newspaper; and indicated if they wanted less, more, or the same space devoted to 20 newspaper content categories. The results showed that 53% spent more time with news than advertisements. Advertising was rated higher in quality than one general and five specific news categories. Heavy ad readers rated the quality of advertising lower, desired more grocery ads, desired more comparison shopping information, and tended to be lower in socio-economic status than other readers.

ALLEN, RICHARD L., & BIELBY, WILLIAM T. Blacks' relationship with the print media. *Journalism Quarterly*, Autumn 1979, 56, 488-496, 545.

Explores the relationship of the attitudes and behaviors of blacks toward the majority press and the black press and their social and economic positions. A sample of 268 black adults living in San Francisco responded to forced-choice questions concerning their background, magazine and newspaper exposure, and their trust and perception of bias in the periodicals read. It was found that those of a higher socioeconomic status tended to spend more time reading newspapers and read more magazines and print media, except black entertainment magazines, than those of a lower socioeconomic status. The subjects trusted the black establishment magazine the most. Blacks less incorporated into society tended to consider newspaper coverage as unfair.

COHEN, LAWRENCE H. The research relationship and information source reliance of clinical psychologists. *Professional Psychology*, December 1979, 10, 780-785.

Determines through a mail survey the extent to which 224 clinical psychologists employed in six different types of work settings read research articles and/or rely on other sources of information for their professional work activities. Questionnaires were sent to psychology department chairmen in randomly selected institutions who distributed them randomly to full-time PhD clinical psychologists in their departments. For the total sample, 68% ranked discussions with colleagues highest as one of their information sources; 55%, research articles; research books and research presentations, 21% and 11%. Academic clinicians and medical school psychologists read slightly more than four research articles per month; the other psychologists, slightly more than two per month.

WARD, MARTIN L. *Readers and library users: A study of reading habits and public library use*. London: The Library Association, 1977.

Identifies, lists, analyzes, and indexes published and unpublished adult user surveys of public libraries in the United Kingdom made between 1900 and 1976. The bibliography cites 125 surveys. The main findings of all the surveys are

then summarized under two headings: 1) reading habits and 2) library use. Under the two major headings, findings are further subcategorized. The author ends with conclusions related to reading and to library use and then presents implications of the findings from the surveys.

III-6 Library use

METZ, PAUL. The use of the general collection in the Library of Congress. *The Library Quarterly*, October 1979, 49, 415-434.

Compares the use information of the research collection in the Library of Congress with the holdings data. Patterns of usage were determined by a sample of volumes from the library's general collection delivered to patrons in a three-day period in 1977. Holdings data came from a random sample of 100,000 volumes conducted in a prior study. A disproportionately heavy use of recent materials, English-language publications, and monographs was found. Materials in history and the fine arts were strongly preferred; materials concerned with science and technology were underused in proportion to holdings. The decline in use with increasing age of materials is rapid at first, especially for natural and social sciences; but after the first decade the process of decay becomes increasingly gradual and more uniform for the collection as a whole.

MANCALL, JACQUELINE C., & DROTT, M. CARL. Tomorrow's scholars: patterns of facilities use. *School Library Journal*, March 1980, 26, 99-103.

Focuses upon the use of the library in the preparation of the independent study paper. Data sources included student questionnaires, completed by 234 students in six metropolitan schools; 11 teacher questionnaires; interviews with school librarians; and examination of the bibliographies of student papers. The library use by these subjects extended beyond school libraries to home collections, neighborhood and regional public libraries, academic libraries, and a variety of special collections. Two-thirds of the students reported receiving help from the library staff. They reported high success rates in all of the libraries they used.

PHILLIPS, MARILYN. In the YA corner. *School Library Journal*, September 1979, 26, 57.

Questions 425 subjects, grades three through eight, about their use of libraries. Each group saw themselves as prime library users; however, fewer than one-half stated that they were assigned work that could be done in only a school or public library. Books were the favorite kind of recreational reading material, followed by magazines. More than half of the students owned library cards. Students in the upper grades checked out more books than did students in lower grades. Most students spent two to five hours a week reading for pleasure, but library card-holders read no more books than non-card holders.

III-7 Status and development of libraries

EYSEN, J. International statistics of city libraries 1978. *International Library Review*, April 1980, 12, 217-218.

Presents 22 types of statistics for 41 metropolitan libraries throughout the world. Among the items included are the following: population of cities; numbers of periodicals regularly received and audio-visual media; loans; total budgets; audio-visual, periodicals, acquisitions, and non-book budgets; number of staff and librarians; numbers of branch and mobile libraries.

CHANDLER, G. The role of national libraries: 1978 questionnaire. *International Library Review*, January 1980, 12, 17-42.

Determines the range of responsibilities of national libraries with particular emphasis on their planning, coordination, and leadership roles. A questionnaire was prepared by the National Library of Australia and sent to national libraries throughout the world. Among the information included in the report are data on the authority of the libraries, responsibilities; national collections of printed literature, maps, films, video records, musical scores, sound recordings, pictures, private manuscripts, government archives; the location of materials pertaining to each country; annual allocations for requisition of materials; bibliographical services; lending and information services; computer-based services; research conducted.

HAAS, WARREN J. Research libraries and the dynamics of change. *Scholarly Publishing*, April 1980, 11, 195-202.

Explains changes and problems occurring in research libraries. The problems faced have been largely economic ones: inflation, declining enrollments in universities where the libraries are located; increase in numbers of research materials; new expectations of the users of research libraries, as computerized bibliographic services. Various aspects of technology and different means of cooperation among libraries are delineated.

MILLER, MARILYN. How long, oh, Lord, do we roam in the wilderness? *School Library Journal*, December 1979, 26, 5-11.

Questions members of the National Association of State Educational Media Professionals from 34 states and Guam concerning the most significant events of the school library field occurring in the past 25 years as well as their concerns and anticipated developments in the media field. The events considered the most important by the subjects were technology and the emerging field of media, federal funding, development of national standards, and changes and developments in the professional preparation of school library media personnel. They were concerned about poor leadership, lack of understanding of the role of media programs, and apathy on the part of administrators.

BRAVERMAN, MIRIAM. *Youth, society, and the public library*. Chicago: American Library Association, 1979.

Presents the early history of young adult library services in three public libraries. These services began in 1920; then and in the 1930s browsing rooms were established, these being the forerunners of non-traditional rooms of the 1960s and 1970s. Emphasis in the report is placed upon the work of three women: Mabel Williams, Jean Roos, and Margaret Evans. Although pop music has been a part of the libraries since the 1930s, the preoccupation has been with print media.

CAMPBELL, H. C. Public libraries in the metropolitan Toronto area. *International Library Review*, January 1980, 12, 79-82.

Details each stage of the development of the Toronto public library system from its beginning in 1884 to the present time. By 1921 the system has progressed from a central library and two branch libraries to a reference library, a municipal reference library, a central circulating library, and 13 branches. In 1922 a library for children was developed. The period of the 1930s and 1940s was characterized by lack of finances and slow growth, but after 1946 expansion of the facilities continued. The system continued to grow and included additional branch libraries and libraries in hospitals, a reformatory, and a home for unmarried mothers as well as public schools.

III-8 Social and cultural factors of reading

ROBINSON, VAUGHAN. The achievement of Asian children. *Educational Research*, February 1980, 22, 148-150.

Ascertains achievement of Asian children in the environment of a British school and causes for any deficiencies. The subjects were 627 children, 227 being Asians with an average age of ten years, ten days. Based upon the results of tests, the Asian children were significantly behind their white counterparts and other immigrant groups in both reading and mathematics. Underachievement was mainly restricted to the low status sector of the Asian community, characterized by rural-born Asians with little experience with education, restricted aspirations, and poorly paid employment.

GILL, RUSSEL, & KEATS, DAPHNE M. Elements of intellectual competence: judgments by Australian and Malay university students. *Journal of Cross-Cultural Psychology*, June 1980, 11, 233-243.

Includes reading as one of the skills when 40 Australian and 52 Malay university students judged the relative importance of various forms of intellectual competence. Both groups of students agreed on the importance of four general areas of competence, giving the top rankings to mental abilities and knowledge. The two groups disagreed in the ranking of specific mental abilities, skills, and characteristics of style. The Malays placed more emphasis on social and practical skills in contrast with the Australians who rated the academic skills of speaking, reading, and writing more highly. The study suggested some cultural bases for these differences.

GALEN, NANCY, & JOHNS, JERRY L. Children in conflict. *School Library Journal*, November 1979, 26, 25-28.

Determines developmental or emotional problems of primary-age children and presents an annotated list of books appropriate for children in need of specific personal or social guidance. The 10 most significant problems of the 17 listed in a questionnaire were selected by 151 teachers, 81 being primary teachers. The following categories, selected by 80% of the primary teachers, formed the framework for the booklist included in the report: coping with competition, divorce or change in family status, coping with failure, coping with peer group pressure, recognizing and accepting one's strengths and weaknesses, and coping with alienation and rejection.

ABRAMS, MICHAEL E.; KAUL, ARTHUR J.; & MA, CHRISTINA. Social class and perceived utility of newspaper advertising. *Newspaper Research Journal*, November 1979, 1, 42-47.

Questions whether social classes have different perceptions of the usefulness of advertising and of news found in newspapers. Interviews were conducted with 150 residents (91 females, 59 males) from a small Illinois city concerning what they read in the newspaper the previous day, including advertising, and their perceptions of the usefulness of the materials read in newspapers. Responses were evaluated on a five-point scale. Socioeconomic status of the subjects was determined by educational levels attained and occupations. No significant relationships were found between socioeconomic status and perceived utility of news or advertising; neither was a relationship found in socioeconomic status between those for whom advertising is more useful than news or for those who consider news to be more useful than advertising.

III-9 Literacy

REDER, STEPHEN; WALTON, MARY F.; & GREEN, KAREN REED. *A bibliographic guide to functional literacy*. Portland, Oregon: Northwest Regional Educational Laboratory, November 1979.

Annotates under five major topics research articles on functional literacy. Along with the annotations, the authors present a brief commentary as a focus for various issues and problems in the field and raise questions as yet unanswered by the research literature.

BORMUTH, JOHN R. Value and volume of literacy. *Visible Language*, Spring 1978, 12, 118-161.

Analyzes research related to literacy, defined as information people exchange via the written word. The purpose of this study was to determine the volume and monetary value of literacy and to trace their growth over the past generation. Three major components of the literacy production industry include the production of materials, their distribution, and the teaching of reading and writing. Product counts indexed the volume of output for each production component; the time people spend reading and writing indexed the volume of literacy consumed. Unit counts were compared to population size to determine their growth during the period studied. Dollar values were placed upon the unit measures; a national literacy account was formed to estimate the total value of American literacy and the net value of literacy. It was concluded that there have been many advances but that the nation cannot consider itself literate.

FISHER, DONALD L. *Functional Literacy and the Schools*. Washington, D.C.: National Institute of Education (U.S. Department of Health, Education, and Welfare), January 1978.

Analyzes critically several recent surveys of adult functional literacy. The reanalysis does not support the claims that education has deteriorated and that today's schools are less effective than schools of yesterday. The author found that estimates of functional illiteracy have been greatly inflated. There is evidence, however, that students who fail to graduate from high school constitute the bulk of illiterates.

KIRSCH, IRWIN, & GUTHRIE, JOHN T. The concept and measurement of functional literacy. *Reading Research Quarterly*, 1977-1978, 13(4), 485-507.

Reviews literature about the concept and measurement of literacy. Estimates of illiteracy range from one to 20% for non-institutionalized populations, this variance resulting from lack of agreement of definitions of literacy and what should be measured. Measures of educational attainment, grade equivalency scores, and tests of functional reading and competency are evaluated. It was proposed that functional literacy should be distinguished from functional competence, that the term *literacy* should refer to reading and *cognitive competency* should refer to general skills in reading, listening, writing, and calculating and that new measurements should be developed and classified according to the practical information to be obtained and the decisions to be made from them.

INTERNATIONAL COUNCIL FOR ADULT EDUCATION. *The world of literacy: policy, research, and action*. Ottawa: International Development Research Centre, 1979.

Reviews completed research on literacy in regard to the following: factors related to the achievement of literacy; the organization and administration of

literacy programs; teaching staff; participants in the program; curriculum, content, and methods; costs; and circumstances necessary for the continuance of literacy. Many examples from various countries are included.

GRAFF, HARVEY J. *The literacy myth: literacy and social structure in the nineteenth-century city*. New York: Academic Press, 1979.

Examines the place of literacy in a variety of spheres of social life in the mid-nineteenth century. The focus is on the cities of Hamilton, London, and Kingston in Ontario, Canada. The first part of the book relates the importance attached to literacy and the values that accompanied it, and then presents data on age, sex, national origin, schooling and other demographic information on literates and illiterates in the population. The significance of literacy for social placement and stratification is examined. The second major section of the book views problems such as crime, work, and the quality of literacy. The author contends throughout that literacy did not universally serve to benefit all who had attained it nor did it necessarily disadvantage those who had not attained it.

WEST, E. G. Literacy and the Industrial Revolution. *The Economic History Review*, August 1978, Second Series 31, 369-383.

Reviews and analyzes reports related to the extent and timing of literacy changes in eighteenth- and nineteenth-century Britain and their relationship to economic growth. Examining new data, the investigator pointed out that former studies omitted important variables. He concluded that the English researchers could not reject a "threshold theory" of literacy promoted by two Americans, that the Industrial Revolution did not depress literacy, that the date of distinct improvement in the literacy trend coincided with the start of the large-scale factory system, and that the convergence of studies by historians of literacy and historians of schooling is necessary.

WICK, TOM. The pursuit of universal literacy. *Journal of Communication*, Winter 1980, 30, 107-112.

Presents examples of attempts to gain universal literacy from the time of Plato and the Roman Empire until the present time with emphasis on attempts by the United States to attain literacy for all. Two factors undermine the ideal of universal literacy: racial-ethnic and the gap between males and females, with the latter group being more successful in learning to read and to write. The conclusion was that failure to achieve literacy contributes to the stratification of society.

MCKENZIE, MOIRA. The beginnings of literacy. *Theory Into Practice*, December 1977, 16, 315-324

Identifies and discusses three broad stages in becoming a reader. Supporting evidence from research in reading is cited.

FONTES, PATRICIA J., & KELLAGHAN, THOMAS. Incidence and correlates of illiteracy in Irish primary schools. *The Irish Journal of Education*, Summer/Winter 1977, 11, 5-20.

Ascertains the extent of illiteracy among all sixth class pupils in 93 Irish primary schools through ratings by teachers as either having or not having problems related to reading and/or writing and standardized tests. The population of Irish national schools was stratified by location (urban, town, rural), size, sex composition, and type of administration (religious, lay); the sample was randomly selected within each stratum. Teachers perceived 6.2% of pupils being unable to cope with everyday demands in reading and an additional 7% being unable to cope with post-

primary school demands. Children with reading/writing disabilities tended to be older than other sixth class pupils and to score considerably lower on tests of verbal reasoning and English attainment.

GOLUB, LESTER S. A computer assisted literacy development program. In Laura S. Johnson (Ed.) *Reading and the Adult Learner*. Newark, Delaware: International Reading Association, 1980. Pp. 47-54.

Reports upon the development and validation of a computer-assisted reading instruction program for career-oriented youth (ages 14-24). The two parts of the program are the initial reading (basic skills) and job orientation and the use of reading materials incorporating short reading selections designed to prepare the reader for the career world. A flow-chart incorporates the different stages of the program. Two types of evaluation were used: formative and summative. One characteristic of the program is the immediate feedback of between four and 30 seconds to the students.

HEATH, SHIRLEY BRICE. The functions and uses of literacy. *Journal of Communication*, Winter 1980, 30, 123-133.

Reports upon the results of a five-year study designed to determine who reads and writes, for what purposes, and under what circumstances. Literacy activities were recorded for 40 blacks in community, work, school, and home settings. Adults were asked about how they participated in the reading of pre-school children who had not been taught to read or were read to. Seven types of uses of literacy were described: instrumental (practical problems), social-interactional, news related, memory-supportive, substitutes for oral messages, permanent records, confirmation. It was concluded that literacy has different meanings for members of different groups, with a variety of acquisition modes, functions, and uses.

ALLINGTON, RICHARD L., & WALMSLEY, SEAN A. Functional competence in reading among the urban aged. *Journal of Reading*, March 1980, 23, 494-497.

Assesses the functional reading competence of 89 paid volunteer adults over age 60 drawn from several senior citizen centers. Content concerned with community resources and health from an adult performance assessment tool developed by Northcutt was administered. The older subjects scored considerably lower than either the adult or the twelfth grade subjects in the Northcutt study. Approximately one-fourth of the subjects scored at the functionally competent level.

BHOLA, H. S. Reading materials for the new reading public: a policy brief. *Literacy Review*, 1980, No. 1, 1-58.

Presents a proposal for the production and distribution of reading materials for adult readers, especially in developing countries. The report contained concrete ideas concerning the problems involved in the production and distribution of reading materials for adult readers, the resources and manpower needs for establishing such a system, policy options, and strategies related to means and resource allocations. Also discussed are production policies for books for the Third World, needs and challenges of the rural press in these countries, and libraries and distribution centers.

KRAETSCH, GAYLA A. What's new in literacy legislation? *Change*, April 1980, 12, 44-45.

Reviews legislation in different states concerning minimum competency testing in post secondary education. Topics discussed are the selection of tests, uses made of test results, funding of programs, locations within the states where remedial instruction is offered.

III-10 Reading in non-school settings

TURNER, E. B., & AGNEW, J. B. The intelligence and educational attainment of Borstal trainees in northern Ireland. *The Irish Journal of Education*, Summer/Winter 1977, 11, 33-41.

Assesses the intelligence and basic educational attainments of 395 boys committed for delinquency in Northern Ireland over a period of six years and examines relationships between test scores, family size, ordinal position in family, and previous educational and institutional experience. Intelligence was measured by the *Otis Quick-scoring Test* and Raven's *Standard Progressive Matrices*. Four of Schonell's *Diagnostic and Attainment Tests* were used to assess educational attainment. Testing and interviewing occurred within a few days of committal. Product-moment correlation coefficients were calculated among the measures for the entire group and for four sub-groups: two containing former pupils of "maintained" schools attended by Catholics and two of "controlled" schools attended by others. For each type of school one group included boys who had been sent to training schools following earlier connections and one of boys who had not been sent. Scores on all tests were highly correlated and not related to previous training.

LOVELACE, TERRY. Reading activities to enhance the lives of nursing home patients. *Educational Gerontology*, July/September 1979, 4, 239-243.

Hypothesizes that social reinforcement through reading enhances the performance of the elderly and relieves the effects of social deprivation. Two reading groups (eight subjects, ages 54 to 87, and eight subjects, ages 60 to 92) in a convalescent home met for 45 minutes once a week for a six-week period to listen to and to discuss short stories. The patients appeared to enjoy and appreciate the sessions. The problems encountered in conducting the research were discussed.

III-11 History of reading instruction

MONAGHAN, E. JENNIFER. The impact of research in reading upon the classroom: aspects of the American experience. In John Gilliland (Ed.) *Reading: research and classroom practice*. Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association, 1977. Pp. 355-364.

Attempts to determine the relationship between research in reading and its practical applications in the American classroom at three different periods: the late teens and early twenties of the twentieth century, 1930 to 1965, and the 1970s. Examples of research during each period are noted. Parallels between current and earlier times were noted. The conclusion reached was that the real influence on the American classroom has been the prevailing philosophy, or philosophies, of the day, not research.

III-12 History of newspapers and magazines

BOYCE, GEORGE; CURRAN, JAMES; & WINGATE, PAULINE (Eds.) *Newspaper history from the seventeenth century to the present day*. Beverly Hills, California: Sage Publications, 1978.

Includes a series of historical accounts of the British press by 20 contributors. The book is divided into four major parts. The first part consists of different perspectives on the historical development of the British press; some of the themes

are explored more fully in other parts of the volume. The ownership, control and structure of the press since its origin in the early seventeenth century through 1976 are traced in the second part. Part three examines the changing organization of journalism. The last part is concerned with the role of the press in British society and politics.

SCHUDSON, MICHAEL. *Discovering the news: a social history of American Newspapers*. New York: Basic Books, 1978.

Studies the relationship between the institutionalization of modern journalism in the United States and general trends in economic, political, social, and cultural life. In 1830, there were 650 weeklies and 65 dailies in the country; by 1840 those figures had grown to 1,141 and 138, respectively. During the decade of the 1830's a revolution in American journalism occurred, manifested by the appearance of "penny papers" hawked on the streets by newsboys. The first penny paper, the *New York Sun*, appeared in 1833 and within several months had the largest circulation of any paper in the city. These papers relied on advertising and wide circulation to pay for themselves. In addition, the penny papers claimed themselves politically independent and originated the modern concept of news. The Associated Press was organized in 1848 in order to take advantage of the speed of the telegraph in transmitting news. By the turn of the century, sensationalism was the chief development in newspaper content. During the 1890's the *New York Times* began to stress an information model of reporting. In the 1920's and 30's, journalists turned to objectivity as an ideal in reporting. By the 1960's objectivity had become suspect and interpretive reporting became favored. Increasing government management of the news and the emergence of an adversary culture led to the most recent changes in journalism, investigative reporting and the expansion of the muckraking tradition.

HYNDS, ERNEST C. Trends in daily newspapers in the United States. *Gazette*, 1979, 25(3), 135-149.

Reviews research about trends of ownership, economics, audience, content, and technology of newspapers in the United States. Concerns were voiced about the preservation of press freedom. Among the topics discussed are circulation figures at different times; the decline of afternoon editions, increase of local monopolies, group ownership, cross-media ownership; cost increases; adapting newspaper content to changing life styles; and newspaper interests of different age groups.

SCHILLER, DAN. An historical approach to objectivity and professionalism in American news reporting. *Journal of Communication*, Autumn 1979, 29, 46-57.

Traces the development of objectivity and professionalism in American news reporting from the mid 1830's when the penny newspapers considered their most fundamental goal to be a business success. Research is cited for the major developments, such as the commercial newspapers' goal of the surveillance of the public good, the influence of a scientific movement pervading America, the use of the new technology of photography, the emerging profession of journalism, journalistic rules for writing, and public relations and newspaper reporting.

CHAPINSKI, BENJAMIN. Ethnicity and their media: a specific documentation of Polonia in the United States. *Gazette*, 1979, 25(2), 87-95.

Traces the history of the Polish ethnic press in the United States. The first periodical is believed to have been *Poland Historical, Literacy, Monumental and*

Picturesque, begun in 1843 and written in English. After 1892 there were at least 50 Polish-American newspapers published in America. The Polish language press became a recognized part of the Polonian community, but the press is currently largely an English language one. More than 1,316,000 Polish-Americans now obtain Polonian publications in the United States, including specialized periodicals besides newspapers.

EKWELIE, SYLVANUS A. The Nigerian press under military rule. *Gazette*, 1979, 25(4), 219-232.

Reviews the history of the Nigerian press from 1859 to 1978 with emphasis placed upon the press under military governments since 1966. Three major periods of the Nigerian press were identified: the first, from 1859 to 1960, a period of colonial rule; the second, 1960 to 1966 when sovereignty was attained; the third, 1966 to 1978, a time of military rule. Throughout its 110-year history the Nigerian press has remained relatively free, even under military rule.

DEMOTT, JOHN. Newspaper ethics and managing editors: the evolution of APME's code. *Newspaper Research Journal*, May 1980, 1, 75-84.

Describes the origin and development of codes of ethics for newspapers. The code by the Associated Press Managing Editors was not adopted until 1975, but from the origin of the association members were dedicated to the implementation of codes formulated by other press organizations. In 1949, 55 newspapers and heads of 15 journalism schools identified 41 factors necessary for a successful newspaper; these were grouped into five major headings: integrity, accuracy, complete and unbiased news, leadership, and character. Another committee in 1962 listed the following criteria: accuracy, responsibility, integrity, and leadership. The final APME code of ethics concentrated on responsibility, accuracy, integrity, and conflicts of interests. Libel laws influenced changes and implementation of the code.

COMPAINE, BENJAMIN M. The magazine industry: developing the special interest audience. *Journal of Communication*, Spring 1980, 30, 98-103.

Traces changes in magazine publication. For much of the 100 years of their history, magazines have served as the primary mass medium in America. Because other media, especially television, have usurped that purpose, an increasing proportion of magazines now serve special interests or a limited audience. The most significant reason for the survival of the magazine has been its ability to adapt to a changing role in society. Publishers have sensed new interests within the public and have established new publications to cater to them. The number of magazines has increased although total magazine circulation is fairly level.

LICHTENSTEIN, NELSON. Authorial professionalism and the literary marketplace 1885-1900. *American Studies*, Spring 1978, 19, 35-53.

Traces the roles of authors in relation to the literary marketplaces, especially magazines, between 1885 and 1900. During the 1890's authors became conscious of their role as producers of a literary commodity, the basis for much of the change lying in technological and demographic changes. Discussed are such topics as the development of a national market and well capitalized publishing houses, the necessity of copyright laws, audiences the periodicals appealed to, the roles of magazine editors, the advent of the literary syndicate, government subsidies for magazine distribution, the effects of the depression of 1893, increases in number of new titles of books, contracts with magazines for the works of authors, and the position of literary agents.

III-13 Newspaper and magazine publication

KAPLAN, FRANK L. The plight of foreign news in the U.S. mass media: an assessment. *Gazette*, 1979, 25(4), 233-243.

Evaluates the coverage of foreign news in United States newspapers and television. The percentage of news concerning other countries is low. The dearth of overseas reporting is accompanied by a decrease in diversity of points of view. Especially lacking is news concerning Third World countries, except news of calamities. Reporting from overseas is complicated by technical difficulties, hostile governments, and lack of reporters in various areas. Two changes are needed: more reporting of foreign news and more interest in this news by the public.

DEVERNEIL, ANDRÉ J. A correlation analysis of international newspaper coverage and international economic, communication, and demographic relationships. In Brent D. Ruben (Ed.) *Communication Yearbook I*, New Brunswick, New Jersey: International Communication Association, 1977. Pp. 307-317.

Tests the idea that nations' international relations are reflected in their international news coverage and relates the differences in the amounts of international news coverage to economic and communication conditions in these countries. Twelve issues of each of 35 newspapers from different countries were analyzed for type of news and country of origin. Each article was placed into one of the 37 country categories, the international category, or the domestic category and was measured in column inches. The results did not show a relationship between amounts of news coverage and the trade and communication variables. When the results of comparisons were made for 15 countries, international news reporting was not uniformly related to other international activities. Four contrasting interaction patterns operating within individual nations were noted.

TWUMASI, YAW. The newspaper press and political leadership in developing nations: the case of Ghana 1964 to 1978. *Gazette*, 1980, 26(1), 1-16.

Relates the newspaper press and the variables of literacy, income, and political leadership between 1964 and 1978 in Ghana. The origin and the developments of the press in relationship to the different governments are delineated. It was concluded that the natural stages through which media scholars believe that a country must pass if it is to move from an authoritarian to a libertarian press did not apply to Ghana. No serious attempts were made by the governments to use newspapers to bring the mass of people within the mainstream of economic activity. Newspaper readership is based upon the literacy rate and the education of the populace.

UNDERWOOD, BRUCE; RODRIQUEZ, BLANCA; & URESTI, SANDRA LEAL. Travel news and ads in Mexican newspapers. *Journalism Quarterly*, Winter 1979, 56, 868-871.

Studies the status of news and information on tourism in three selected daily Mexican newspapers published between July 12 and July 25, 1978. Interviews were also conducted with the highest ranking executives available for each of the newspapers. Descriptions and results of the investigation for each newspaper show that travel information is not gathered, processed, and disseminated systematically by these newspapers. They did not include a travel section or have a travel editor. The state and federal governments do very little advertising, even of facilities which they help support.

SINGLETERY, MICHAEL. Accuracy in news reporting: a review of the research. *ANPA News Research Report*, January 25, 1980, 1-8.

Reviews the literature exploring the accuracy of the newspaper stories illustrating several possible error sources.

KIELBOWICZ, RICHARD B. Leaks to the press as communication within and between organizations. *Newspaper Research Journal*, February 1980, 1, 53-58.

Reviews research concerning the publication of leaked information, including not only inadvertent slips but also information released to reporters with the stipulation that the source remain unidentified. The studies reviewed were concerned with leaks classified as upward communication (from lower to upper echelons), as downward communication (from upper to subordinate echelons), and as horizontal communication (within an agency, between organizations, between governments). It was concluded that information leaked to the press becomes available to a large audience, though it is intended for a narrow, attentive one.

STEVENS, GEORGE E. Negligence in defamation before *Gertz*. *Journalism Quarterly*, Winter 1979, 56, 832-836, 849.

Reviews court cases in which reporters have been accused of being negligent in reporting facts and editors have been cited as negligent in editing. Since the U.S. Supreme Court decision in the *Gertz vs. Robert Welch, Inc.*, case which allowed a demonstration of fault other than actual malice in the foregoing case and in a large number of defamation cases, journalists and other mass communicators have been uncertain about what is considered negligent behavior.

BISHOP, ROBERT L.; SHARMA, KATHERINE; & BRAZEE, RICHARD J. Determinants of newspaper circulation: a pooled cross-sectional time-series study in the United States, 1850-1970. *Communication Research*, January 1980, 7, 3-22.

Develops a model to account for the growth in demand for daily newspapers over an extended period of time. Data from census reports between 1850 and 1970 were grouped into geographic and social regions for analysis. Independent variables were price as a proportion of per capita income, percentage of the work force in non-agricultural labor, education, voting, and urbanization. Price proved the most powerful predictor of newspaper circulation. It was concluded that the model was useful in the study of diverse regions in the United States, that newspapers are essentially local affairs, and that the decline in newspaper circulation on a perhousehold basis began in some states in 1910.

ROSSE, JAMES N. The decline of direct newspaper competition. *Journal of Communication*, Spring 1980, 30, 65-71.

Identifies possible reasons for newspaper failures and the resulting loss of competition within cities. Of the 1536 United States cities having daily newspapers in 1977, only 35 had competitive papers. There was one chance in nine that a newspaper did not have competition in 1923; two out of three, in 1978. The long run cause of newspaper failure is loss of effective market segmentation, the latter resulting from a downward shift in advertising, competition from television, weakening of advertising preferences for differentiated audiences. America's mass exodus from cities had a number of effects on the newspaper market, including a loss of subscribers to city newspapers by an increase for suburban ones.

MISHRA, V. M. The future of the newspaper industry in America: some research contingencies and portents. *Gazette*, 1980, 26(1), 17-29.

Reviews research and opinions concerning the extent to which newspapers perform various functions for a changing community and how newspapers are read by the numbers of that community. The future of the newspaper in the United States is examined within the framework of the following analytical perspectives:

demographic and psychographic, readership and audience, circulation and promotion, advertising, econometrics, technological, managerial, and research. The latter was considered to be the most crucial.

HYNDS, ERNEST C. City magazines, newspapers serve in different ways. *Journalism Quarterly*, Autumn 1979, 56, 619-622.

Analyzes 38 city magazines, which were either privately-owned or sponsored by chambers of commerce in terms of their potential as alternatives to newspapers for discussions of public issues, their perceived roles, and their content and perceived influence on public issues. Based upon the responses to a questionnaire, the researcher concluded that most city magazines point out local problems and needs and consider these publications as possible alternatives to local newspapers. Most tend to emphasize content pertaining to life styles for their generally affluent and educated audiences. Few use editorials and cartoons. The majority believed that one reason for the rapid growth of city magazines was the increase of one-newspaper towns.

HODDER, PETER. Apron strings in science publishing. *Scholarly Publishing*, April 1980, 11, 267-281.

Surveys trends in publishing New Zealand geology scientific findings from 1840 to the present time. The data for this study originated from bibliographies compiled by several researchers. Each entry was coded with a subject and publication source, sorted by year, placed on a subject-source matrix, and counted. The articles were published by the government, by private publishing firms in New Zealand, and by overseas concerns. To overcome delays in publishing, rapid dissemination was accomplished through leaflets and informal publication methods. At the close of the survey time there was a decline in government-sponsored publications. It was concluded that there had been little change since the colonial days as scientists at both times published their studies in overseas publications.

III-14 History of print and books

BRANN, NOEL L. A monastic dilemma posed by the invention of printing: the context of *De laude Scriptorum Manualium* by Abbot Johann Trithemius (1462-1516). *Visible Language*, 1979, 13(2), 150-167.

Gives reasons that the invention of printing was not looked upon by contemporaries as an unqualifiably progressive step. The printing art came into direct competition with monastic practices of the art of handcopying. The Abbot Trithemius wrote in support of the idea that handcopying of texts was superior in many ways to print: the parchment had greater longevity than paper; there were more titles of unprinted works than printed ones; the scribe is independent in his choice of texts; handcopied texts are of an aesthetically superior quality than printed texts. However, Trithemius recognized the advantages of print and became one of printing's most vigorous Renaissance advocates.

EISENSTEIN, ELIZABETH L. The emergence of print culture in the west. *Journal of Communication*, Winter 1980, 30, 99-106.

Shows the impact of printing in fifteenth century Italy. Three major movements affected by the development of printing were the Renaissance, the Reformation, and the rise of modern science. The advent of printing came well after the

classical revival of the Renaissance was underway and was therefore neglected in many Renaissance studies; in Reformation studies the topic was not neglected, but its importance was underestimated. The publication of Newton's *Principia* in 1687 began the rise of modern science. It was concluded that the effects of printing have been exerted unevenly but continuously and cumulatively from the late fifteenth century on and have not diminished.

FEVRE, LUCIEN, & MARTIN, HENRI-JEAN. *The coming of the book: the impact of printing 1450-1800*. London: NLB. Atlantic Highlands: Humanities Press, 1976.

Traces the technical conditions and the social pressures which shaped the transition from the manuscript to the printed page in different European countries before 1800. The sociology of medieval readers and authors is detailed through research on such topics as the conditions for printing, format and composition of books, illustrations, library collections, circumstances of printing in European countries, personal book ownership, types of books and pamphlets printed, relationship of printing to universities and religious organizations, copyright laws, and censorship. The advent of print changed the way people thought by different means, such as the change in printing from Latin to vernacular languages, translations of books from one language to another, and the availability of books. The study showed how revolutionary the impact of printing really was.

STEINBERG, HEINZ, & TECKENTRUP, KONRAD H. (Eds.) *Bibliographie buch und lesen*. Gutersloh: Verlag fur Buchmarkt-und Medien-Forschung, 1979.

Annotates 999 articles dealing with aspects of book market research. Articles are placed into nine major categories. Many English language citations are included.

POWELL, WALTER W. Competition versus concentration in the book trade. *Journal of Communication*, Spring 1980, 30, 89-97.

Identifies recent events in and presents an outlook for the book publishing industry. It was concluded that the outlook was mixed. Developments needing close scrutiny are large-scale mergers, retail concentration, and barriers to entry in the textbook and paperback fields. On the positive side is the attention being paid to first novels, personal imprint editors, competition from foreign firms, and the growth of small presses. The trend towards the establishment of a large, monolithic media business might eliminate outdated practices but would destroy the individualistic spirit that has made publishing a major contributor to the literary, cultural, and scientific development in the United States.

ADAMS, JOHN. Linkages: science fiction and science fantasy. *School Library Journal*, May 1980, 26, 23-28.

Traces the growth and changes in science fiction for children and adults. Forerunners of science fiction were H. G. Wells, George Orwell, Karel Capek, and Edith Nesbit. Throughout the 1920s and '30s adult science fiction leaned heavily toward thrills, sparkling cities, and a completely gadgeted world. In the '40s psychological, sociological, and political consequences of scientific innovation were first noted in adult materials and later in juvenile literature. In the '50s juvenile science fiction thrived, beginning with works by Robert Heinlein. New writers appeared in the 1960s and changed the nature of the juvenile works. Fantasy literature appeared at this time.

III-15 Publication and history of juvenile books

HERMAN, GERTRUDE B. Chapbooks, "Star Wars," and other entertainments. *School Library Journal*, March 1980, 26, 87-90.

Traces the history of popular culture books for children published in different countries. The chapbook began to supersede the broadside in the eighteenth century. By the middle of that century a writer could earn a living from the publication of cheap literature, including some intended for children. During the first half of the nineteenth century, street literature flourished in France, Germany, and England. Reference was made to the popularity of books published in America, such as *The Hardy Boys*, *The Bobbsey Twins*, *Tom Swift*, *Nancy Drew*, and *The Little Golden Books* series. Implications of the popularity of popular culture books are included for librarians.

TABBERT, REINBERT. The impact of children's books: cases and concepts (Part 1). *Children's Literature in Education*, Summer 1979, 10, 92-102.

Applies three basic concepts of reception theory to children's literature and presents results and problems of empirical research concerning books for children. *Reception* refers to the reader's share in the reading process; *impact* is the book's share. The model presented included three steps: horizon of readers' expectations; telling gaps in the contexts; and the implied reader. German studies form the basis of the model.

TUROW, JOSEPH. *Getting books to children: an exploration of publisher-market relations*. Chicago: American Library Association, 1978.

Uses interviews and a case study approach to investigate the forces guiding the production and distribution of children's books to libraries (the library market) and to commercial outlets (the mass market). Interviews were conducted with 62 members of a library marketing publishing and outlet organization, a mass market publisher, a bookstore chain, and a department store chain. A questionnaire survey was completed by 50 librarians. The goals of the study were to chart the influences upon the selectors of content within each organization, to determine the impact of client relationships on various aspects of book selection at both the production and distribution levels, and to compare the manner in which choices of new books awaiting the public in book and department stores are made with those in libraries.

ASHFORD, RICHARD K. Tomboys & saints: girls' stories of the late nineteenth century. *School Library Journal*, January 1980, 26, 23-28.

Presents case studies to depict two conventional types of heroines in nineteenth century girls' stories. *Elsie Dinsmore* represented the saint characters, girls who were reared in hostile home environments and who were deeply religious. Katy Carr, in *What Katy Did*, was an example of tomboys who were found in a more benign setting than saints but one lacking a strong masculine influence. Tomboys disregarded conventions until domestic crises forced them to acknowledge family needs. The saints and tomboys can be found in modified forms in present-day literature. Other types of nineteenth century feminine characters were recognized in the report.

FULLER, LAWRENCE B. Literature for adolescents: a historical perspective. *English Education*, February 1980, 11, 131-141.

Reviews attitudes of youth and of teachers toward literature which was contemporary during the first quarter of the present century based upon reports in the *English Journal*. Examples of the emphasis placed on modern authors in this

journal since 1912 are included. Five conclusions emerged from the review of research: adolescents' interest in contemporary literature is normal; the content of the media during any historical period reflects specific contemporary concerns that often appear dated to later observers; to teachers, literary materials popular with adolescents seems a means to an end, not an end in itself; ethical concerns are central to the teacher when considering the work and also to students as they face problems; and adolescents work out their relationships with society through reading literature.

III-16 Freedom of the press and censorship

INTERNATIONAL PRESS INSTITUTE. The UNESCO debate, *IPI report*, London: Author, May/June 1977, Pp. 7-20.

Reports different points of view regarding UNESCO's policies on communication by those who believe the state should have some influence over the media, those who believe in free expression, and those holding a middle position. Other issues related to the problem of press freedom are the formation of a Third World news pool, media dominance in Third World countries especially by western wire services, poverty of Third World resources, influences of different cultures on selection and flow of news.

RUUD, CHARLES A. Limits on the 'freed' press of 18th- and 19th-century Europe. *Journalism Quarterly*, Autumn 1979, 56, 521-530, 693.

Describes the steps taken in England, Prussia, France, and Russia to eliminate preliminary censorship of the press. England abolished censorship in 1695, but this act was preceded by arguments from Milton, Locke, and Hume. Abolition of censorship took place in France in 1789, in 1793 and again in 1814; in Prussia in 1850; and in Russia in 1905 after a substantial cutback of censorship in 1865. Governments in each country abandoned preliminary censorship when the system became too cumbersome to control. The court systems became the authority to decide the legality of content after publication. The governments devised other ways than censorship to influence what appeared in print, including taxes, fines, and caution money as well as financial support given to publications favoring the government.

PECK, D. C. Government suppression of Elizabethan Catholic books: the case of *Leicester's Commonwealth*. *Library Quarterly*, April 1977, 47, 163-177.

Delineates the efforts of the Protestant government of Elizabethan England to suppress and prevent the production and circulation of Catholic books in a case study of the pamphlet, *Leicester's Commonwealth*, a satire of the queen's favorite, first appearing in 1584. The government used many and varied means for the suppression of unwelcome books, such as proclamations, statutes, official and semiofficial news reports, ballads, and public prayers. Although the government used somewhat hysterical efforts to suppress the aforementioned tract, there was evidence that it was widely read. Readership was reduced because of confiscation of copies, but the government was unable to control its circulation entirely.

EKWELIEH, SYLVANUS A. The genesis of press control in Ghana. *Gazette: International Journal for Mass Communication Studies*, 1978, 24(3), 196-206.

Traces the historical or press control precedents of an attempt in 1966 to control press information about Ghana in the foreign press by controlling the

traffic of foreign correspondents. In 1893 the Newspaper Registration Ordinance required newspapers to submit information once a year to the government. New ordinances were passed in the ensuing years; at the same time, newspapers expressed stiff opposition to any form of censorship. Not all ordinances were detrimental to the growth of the press; each one was instituted in direct response to the socio-political climate. Only a few editors were prosecuted under the provisions of the newspaper laws.

GEIS, GILBERT. The case of rape: legal restrictions on media coverage of deviance in England and America. In Charles Winick (Ed.) *Deviance and mass media*, Vol. 2. Beverly Hills, California: Sage, 1978. Pp. 153-177.

Compares legal restrictions on the press in England and in the United States, especially in rape cases. The relationship between rape and the media did not become a problem in the United States, but it did in England. The principal issue discussed was the practice of including names of victims in the reports. The British Parliament restricted the identification of either the complainant or the defendant; in the United States privacy is almost unprotected, but in most cases names of victims are not included. A number of cases are cited or described in this report.

BLANCHARD, MARGARET A. The Hutchins Commission, the press and the responsibility concept. *Journalism Monographs*, May 1977, No. 49. Lexington, Kentucky: Association for Education in Journalism. Pp. 1-52.

Presents the work and findings of and the reaction to *A Free and Responsible Press*, the summary report of the Hutchins Commission on Freedom of the Press. Many changes in press operations today were foreshadowed in that document 30 years ago. The volume strongly opposed governmental intervention in press activities and strongly favored the press's taking responsibility for cleaning its own house. Among the points made by the Commission were the lack of communicating a wide spectrum of ideas, lack of public responsibility, increasing concentration of newspaper ownership and cross-media ownerships, inadequate press performance. The Commission heard 58 witnesses and studied 176 documents. Press reaction was largely negative to the report.

BURRESS, LEE. A brief report of the 1977 NCTE censorship survey. In James E. Davis (Ed.) *Dealing with censorship*. Urbana, Illinois: National Council of Teachers of English, 1979. 14-47.

Concludes that censorship pressure is a prominent part of school life. A sample of 630 National Council of Teachers of English members responded to questions concerning objections to books, magazines, films, audio-visual materials, and school newspapers. Approximately 49% of the returns revealed attempted or completed censorship when all categories were considered. Thirty percent reported book censorship with the major reasons being the language used, including grammar, and references to sex. Parents made 78% of the objections; school staff, 19%. To determine if censorship occurred in library selection, a list of 100 titles, half of which were considered controversial, was included in the survey to determine holdings in each school. No differences in ownership or controversial books was found between schools reporting censorship and those reporting non-censorship. Data are also included for the other four media investigated. Comparisons of results were made with those of a 1966 survey.

TRAGER, ROBERT, & STONECIPHER, HARRY W. Gag orders: an unresolved dilemma. *Journalism Quarterly*, Summer 1978, 55, 231-240, 268.

Reviews judicial restrictive orders on the press during the past decade. Judicial gag orders affected the press by sealing court proceedings, forbidding statements by defendants, lawyers, witnesses and others involved in criminal proceedings. Although no appellate court has upheld an order restraining the press from publishing information gathered in open court since the *Nebraska Press* case, doubts have been expressed concerning the protection afforded by that decision. Courts continue to disagree over how to resolve the dilemma.

JENKINSON, EDWARD B. *Censors in the classroom: the mind benders*. Carbondale, Illinois: Southern Illinois University Press, 1979.

Documents, examines, and discusses numerous censorship incidents and the growth of watchdog organizations in the U.S. Jenkinson feels that there are more than 200 local, state, and national organizations which exist to help parents who want to censor books. In addition to textbooks, censorship now involves magazines, library books, dictionaries, teaching methods, films, pictures, teaching methods, and entire educational programs. The number of known incidents of attempted censorship nearly tripled in the 1970s. After examining a number of censorship incidents, the author concluded that parents simply have to exert sufficient pressure on school personnel and school boards to impose their views on schools. The author lists several national organizations that can supply schools with procedures for handling parents' complaints about materials.

HILLOCKS, GEORGE, JR. Books and bombs: ideological conflict and the schools—a case study of the Kanawha County book protest. *School Review*, August 1978, 86, 633-654.

Investigates the background and the series of events in a West Virginia town in regard to the protest over language arts textbooks adopted the previous spring. The case study is based upon printed materials, tape recordings, and personal interviews. Although the protest involved emotionalism, racism, and class struggle, the evidence pointed to a conflict between opposed beliefs about truth and human behavior: the protesters' unquestioning faith in revelation as the most important avenue to truth, and the tradition and empiricism which subject all knowledge to systematic doubt. Two of the important objections to the texts were the deprecation of Christians or Christian beliefs and concern with morbidity and violence. Criticisms of specific literary selections are included.

EDWARDS, JUNE. The impact of obscenity legislation on schools. *The Educational Forum*, January 1980, 44, 164-173.

Cites legal cases in which a definition for obscenity is basic to the judgments given. Specific examples of cases are given when the legislation was concerned with adults or with children. A section of the report examines obscenity legislation and the schools. Currently, the issue of what is obscene has been left for the states to determine, using the "contemporary standards of the community" and the "average persons" test.

SHACKFORD, JANE W. Dealing with Dr. Dolittle: a new approach to the "isms." *Language Arts*, February 1978, 55, 180-187.

Reviews research and writings on the role of moral education as an alternative to censorship and applies a methodology to one book. The development of children's capacities for critical judgment and reasoned choices should be the goal rather than the censoring of books; the method suggested was shared exploration and discussion of questionable ideas expressed by the authors of books.

III-17 Reaction to printed materials

VIVIAN, JOHN H. Spelling an end to orthographical reforms: newspaper response to the 1906 Roosevelt simplifications. *American Speech*, Fall 1979, 54, 163-174.

Explains the reactions to spelling reform in newspapers with emphasis upon President Theodore Roosevelt's support of spelling simplification and Andrew Carnegie's financial support of the movement. Two forms of newspaper opposition were noted: initial period of ridicule and a second period of serious consideration. Included in the report are descriptions of the work of the Simplified Spelling Board, types of simplified spelling, newspapers that attempted spelling reform, newspaper coverage of the movement, and criticisms and decline of this particular effort to further simplify spelling by 1919.

YANKELOVICH, SKELLY & WHITE, INC. Tracking the attitudes of the public toward the newspaper business. *ANPA News Research Report*, April 20, 1979, No. 19, 12-15.

Reports upon the reactions of a stratified replicated random sample of 2,200 persons aged 16 and over concerning the credibility of news given by mass media in 1976 through 1978. Interviews were conducted in the homes. A sample of government officials was also surveyed. A strong majority of the public felt that newspaper and television news is biased and that bad news is emphasized over good news. Four out of ten of the subjects "always or usually" believe newspapers. Among the public as a whole no distinction is made between the credibility of newspapers and that of television news. For the government officials both newspapers and news magazines have more credibility than television news.

BECKER, LEE B.; COBBEY, ROBIN E.; & SOBOWALE, IDOWU A. Public support for the press. *Journalism Quarterly*, Autumn 1978, 55, 421-430.

Examines the results of three Roper surveys administered during Watergate to determine reasons for press criticism. The samples interviewed included 1,263, 1,987, and 2,002 subjects 18 years old or older. Measures likely to be related to media criticism were grouped into three types: sociological, psychological, and political. The questionnaires included measures of socioeconomic status, education, and age of the subjects as well as questions related to press. The most important determinants of press criticism were political: support of Nixon, party affiliation, and ideology. The data suggested that support of the press is dependent in part on the popularity of the national readership.

LARKIN, ERNEST F., & GROTTA, GERALD L. A market segmentation approach to daily newspaper audience studies. *Journalism Quarterly*, Spring 1979, 56, 31-37, 133.

Determines differences in attitudes toward and utilization of the daily newspaper of 481 adults in six different age groups. A questionnaire, administered as part of a larger study of consumer behavior and media usage, included two categories of questions: those concerned with opinions and attitudes toward the mass media and those designed to determine what subjects look for in the newspaper. The younger subjects (19-24) had considerably different attitudes towards newspapers than the older subjects, the younger ones turning more to television for both their information and entertainment. Older age groups tended to have more positive attitudes toward the newspaper and to turn to it for more of their information.

STEVENSON, ROBERT L., & GREENE, MARK T. A reconsideration of bias in the news. *Journalism Quarterly*, Spring 1980, 57, 115-121.

Hypothesizes that most people define bias as news information which is discrepant with the mental picture they already hold about the situation. The 73 undergraduate subjects read and reacted to eight news stories concerning presidential candidates from *Time* and the *New York Times*. For each medium one story generally favorable and one generally unfavorable to each candidate were placed in test booklets containing instructions in the use of the signaled stopping technique. Each time the subjects stopped reading they marked the place and indicated the reason for stopping. They also marked what they considered to be bias in the selection. The hypothesis was sustained.

RYAN, MICHAEL. Attitudes of scientists and journalists toward media coverage of science news. *Journalism Quarterly*, Spring 1979, 56, 18-26, 53.

Examines the extent to which 110 scientists and 122 science journalists agreed about the major issues in science coverage, the extent to which the two groups perceived differences in their views, and the extent to which each group accurately predicted the views of the other. The subjects indicated on a seven-point scale the extent to which they agreed with statements relating to science news coverage and its problems, and how they thought the other group would respond to the same statements. The results showed that the attitudes of both groups about science news were quite similar. Each group accurately predicted the perceptions of the other group. The ways in which the two groups differed significantly are included in the report.

RIEBER, ROBERT W.; WIEDEMANN, CARL; & D'AMATO, JEANETTE. Obscenity: its frequency and context of usage as compared in males, nonfeminist females, and feminist females. *Journal of Psycholinguistic Research*, May 1979, 8, 201-223.

Determines the attitudes towards obscene language of 29 males, 29 non feminist females and 29 feminist females, all volunteer subjects, ranging in ages from 18 to 55. A questionnaire which consisted of 12 bipolar pairs, four measuring evaluation, four measuring activity, and four measuring potency, provided an overall attitude toward the stimulus words. Based upon a semantic differential scale the results showed that women reacted more strongly to obscene language than men. The feminist females reacted differently from the other two groups in viewing obscenity as less potent.

BODMAN, PAMELA L.; MINCHER, MICHAEL; WILLIAMS, CHRISTINE; & LINDAUER, MARTIN S. What's in a name? evaluation of literary names in context and in isolation. *Poetics*, October 1979, 8, 491-496.

Evaluates literary character's names taken from classical and children's literature, judged as either positive or negative in the original context. Comparisons were made between the original ratings and the ratings given the names in isolation by 44 subjects. In the first study, of the 132 names from classical literature, female positive names received the highest degree of agreement. In the second study which used 23 names from children's literature, consensual matches were made by women rather than men judges.

LAMB, CHARLES W., JR.; PLETCHER, BARBARA A.; & PRIDE, WILLIAM, M. Print readers' perceptions of various advertising formats. *Journalism Quarterly*, Summer 1979, 56, 328-335.

Studies the effects of comparative advertising. Seven sets of advertisements for a fictitious calculator were prepared, one noncomparative and six comparative.

The six comparatives varied on the dimensions of intensity, and directionality. Each set of advertisements was shown for one minute to different groups of 34 undergraduate students (N=238). Subjects rated the advertisement on a seven-point scale for highly believable to highly unbelievable, and highly interesting to highly uninteresting. Although there were individual differences between certain of the six comparative conditions, the most highly believed and interesting advertisement was the noncomparative. Thus, with respect to believability and interest, the findings failed to support increasing either the frequency or specificity of comparative messages.

III-18 Effects of reading

BEACH, RICHARD. Issues of censorship and research on effects of and response to reading. In James E. Davis (Ed.) *Dealing with censorship*. Urbana, Illinois: National Council of Teachers of English, 1979. Pp. 131-159.

Reviews research on the reader's response to reading or experience with a literary work and the effects of reading upon the reader's attitudes, personality, values, or behavior. Research on the following topics, as related to reader's response, was delineated: values, sex-role, age, literary training, obscene language; as related to effects of reading: sex and violence, and obscenity. Research on response to reading indicates that the experiences are highly unique and vary considerably from one book to another. Most of the studies showed few short-term changes resulting from reading certain books. Different issues of censorship are reported in this review.

YANKLOVICH, SKELLY & WHITE, INC. Tracking the attitudes of the public toward the newspaper business—part 3. *ANPA News Research Report*, May 25, 1979, No. 20, 1-4.

Shows the impact on newspapers of the changing social climate (the public's attitudes, values, and life styles). The information was abstracted from eight years of research reflecting in-depth surveys of 2,500 subjects 16 years or older. The most significant finding was the marked shift from adherence to traditional values. Key social and lifestyle issues which have an impact on content and style in newspapers include focus-on-self, instant-gratification needs, sophistication and the need to be "in," time constraints, and a growing interest in escapism.

ATWOOD, L. ERWIN; SOHN, ARDYTH B.; & SOHN, HAROLD. Daily newspaper contributions to community discussion. *Journalism Quarterly*, Autumn 1978, 55, 570-576.

Focuses on the extent to which the same topics appear in the newspaper and in the reading and conversation of 150 residents of a small city. Content was examined for international, national, state, regional, and local news. A set of 41 categories was used to code 3,415 items from 51 issues of a local daily newspaper. Subjects were asked that they remembered reading in the paper the previous day and what they had been talking about with friends and family. The subjects' answers were totaled for the reading and discussion categories. Rank difference (tau) and partial correlations were computed between newspaper reading and discussion topics for all subjects, those under 35 years of age, those older than 35, females, males. The agenda setting effects were strongest on the discussion of non-local news.

PHILLIPS, DAVID P. Suicide, motor vehicle fatalities, and the mass media: evidence toward a theory of suggestion. *American Journal of Sociology*, March 1979, 84, 1150-1174.

Relates, in a series of studies, publicized suicide newspaper stories to automobile fatalities, and investigates circumstances of both situations. The numbers of motor vehicle fatalities were accounted for in experimental conditions (following newspaper accounts of suicide) and control conditions (same day of week, same time of year, presence or absence of holiday weekends). The findings include the following: motor vehicle accident fatalities increase markedly after and only after publicized suicide stories; the more publicity given to the story, the larger the increase in fatalities; the ages of the suicide and accident victims correspond; stories about murder-suicide tend to be followed by multiple-vehicle crashes involving passenger deaths, while stories of suicide tend to be followed by single-vehicle crashes involving driver deaths.

SOHN, ARDYTH BROADRICK. A longitudinal analysis of local nonpolitical agenda-setting effects. *Journalism Quarterly*, Summer 1978, 55, 325-333.

Studies the influence of one small city community newspaper upon what people read and talk about. Data included a content analysis of 2,001 local news stories and responses given by 150 subjects to open-ended questions at two different times. The news stories and the ones reportedly read by the subjects were coded into one or more of 41 categories. Four-fold correlation coefficients were computed to compare newspaper content with what the subjects reported reading and talking about in both periods. Cross-lag correlations were computed to determine relationships between newspaper read, and talk content between both times. The study gave no support to the idea that the local paper sets the reading agenda and only limited support to the talking agenda. Local topics people talk about influence what they read in a later time period.

WEAVER, DAVID H. Political issues and voter need for orientation. In Donald L. Shaw & Maxwell E. McCombs *The emergence of American political issues: the agenda-setting function of the press*. New York: West Publishing Company, 1977. Pp. 107-119 & 171-208.

Shows through a review of research that three major factors largely determine which messages a person will perceive: interest in content, uncertainty about the subject of the message, and effort required to attend to the message. An increased need for orientation (familiarity with surroundings) leads to increased agenda-setting effects by the media. In the Charlotte study, 55 of 60 possible comparisons supported the prediction that among three groups (high need for orientation, moderate need, low need) those with higher needs were associated with higher levels of mass media use. A positive relationship between need for orientation and agenda setting effect of newspapers was found.

SCARROW, HAROLD A., & BORMAN, STEVE. The effects of newspaper endorsements on election outcomes: a case study. *Public Opinion Quarterly*, Fall 1979, 43, 388-393.

Reports the results of one newspaper's endorsement of a candidate for the office of district attorney. No other newspaper endorsed a candidate; this one newspaper served half of the county. Experimental conditions were such that the effectiveness of repeated endorsements could be measured. Although the candidate lost, he received more votes than the opponent in the part of the country where the influence of the newspaper could be felt. One year later the same kind of analysis was made when the same newspaper made one endorsement of a candidate. It was

concluded that one-time candidate endorsements for local offices appears to be almost worthless.

GAFKE, ROGER, & LEUTHOLD, DAVID. The effect on voters of misleading, confusing, and difficult ballot titles. *Public Opinion Quarterly*, Fall 1979, 43, 394-401.

Reports the results of two election-day surveys concerned with ballot titles which were misleading, confusing, or difficult to read. Interviews were conducted with 975 subjects for the first issue and 583 for the second issue as they left the polls. The Flesch Reading Ease formula rated the first title as "very difficult." The best informed subjects about the issues were those with more information about and more interest in the issues being voted upon. Those less likely to be confused about the issues were members of special interest groups concerned with the issues and voters with more education.

POWELL, LARRY. Voter needs and evaluations of satire. *Journalism Quarterly*, Summer 1978, 55, 311-318.

Examines responses of 69 college students in communication classes to political satire in relation to the four following media needs and uses: interpersonal utility, surveillance, reinforcement, and excitement. The influence of two factors (previous knowledge of an issue or concept and strength, or salience, of the subjects' attitudes) upon the responses was evaluated. Subjects completed a questionnaire to identify contingent conditions (intention to vote, candidate choice) and a seven-interval scale of media needs and uses, read a satiric editorial, and evaluated it on five semantic differential scales. Pearson's correlation coefficient was used to determine relationships between the independent variables (media uses) and the dependent variables (satire evaluations). In general, awareness level coupled with degree of involvement produced the strongest relationship with evaluation of satire.

HVISTENDAHL, J. K. The effect of placement of biasing information. *Journalism Quarterly*, Winter 1979, 56, 863-865.

Examines possible biasing effects of three types of identification (race, membership in motorcycle gang, prior criminal record) of a suspect in a trial and the placement of this identification in a news story. A fictional address was used in the control story. Eight stories had identical headlines and content except for the variables of identification and placement (in or near the lead and buried in latter part of the story). Graduate student interviewers administered the stories to 290 adults, ranging in age between 18 and 77, in their home communities. The position of the identification within the story had little effect on the judgments of guilt or innocence made by the subjects, regardless of the type of identification used. The motorcycle and racial identifications in both positions produced more judgments of guilt when compared with the control.

YOUNG, MICHAEL. Sexual attitudes and behavior of female readers and non-readers of erotic literature. *Psychological Reports*, December 1979, 45, 932-934.

Surveys 50 female undergraduate students in a church-related college to determine the effects of reading erotic literature on sexual behavior or attitudes. The subjects indicated whether or not they were readers of certain current publications and completed a sexual behavior inventory and an attitude scale. No relationships were found between the reading and sexual behavior or attitudes.

GREENEWALD, M. JANE, & DULIN, KEN L. Male and female college-age readers' affective response to formal, colloquial, and substandard dialogue of male and female literary characters. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 246-248.

Investigates sex differences of subjects in the reaction to male and female characters who use three levels of language in stories. The 104 college-age subjects read one of six versions (male, female formal dialogue; male, female colloquial dialogue; male, female substandard dialogue) of six short character sketches and responded to a five-step semantic-differential scale in terms of their mental images of the characters. Three-way analyses of variance were performed with sex of subject, sex of character, and language-level treated as main effects, and the subjects' responses to each of the five scales and summation variables treated as dependent variables. The language levels were related to the two scales of intelligent-unintelligent and cultured-uncultured but were unrelated to the other three. Neither sex of subject or sex of character were related to the ratings of the characters.

COSTELLO, ELLEN M. The impact of language in job advertising on fair practices in hiring: a research note. *Journal of Applied Social Psychology*, July/August 1979, 9, 323-325.

Investigates the effects of sex-biased language in job advertisements on subjects' interest in applying for the positions. Booklets containing 12 advertisements, four experimental and eight control, were read by 176 high school senior subjects. The experimental advertisements represented three experimental conditions: sex-biased, sex-unbiased, and sex-reversed (recruitment of sex opposite that traditionally found for positions). The control ones were written in sex-unbiased language. The results of chi-square analyses indicate that significantly more subjects expressed an interest in the sex-reversed condition than in the sex-biased one.

LUEPTOW, LLOYD B. Gender wording, sex, and response to items on achievement value. *Psychological Reports*, February 1980, 46, 140-142.

Studies the effect of the use of question-wording in survey research. Three forms of two questions on a questionnaire were administered to 437 college students enrolled in sociology classes. Included were the original masculine form, a neuter form in which *person* and *one* were used, and a feminine form. The distribution of responses, from strongly agree to strongly disagree, for the two questions showed that the variation in gender-wording had little effects on response patterns.

ABBOTT, ERIC A., & RICHARDSON, STACY L. Effects of a year-long series of energy articles. *ANPA News Research Report*, November 24, 1979, 7-11.

Evaluates the effect of a year-long series of articles explaining city, state, and national energy problems. Before publication of the series, 1,235 subscribers to the newspaper and 200 non-subscribers were asked about their energy attitudes and current home energy use (response rate, 85%). Those who responded, along with a sample of 300 subscribers and a control group of 200 non-subscribers (response rate, 80%) completed the questionnaire. Again, a comparison was made of the scores on both questionnaires for those who had responded the first time; their scores were compared to those of the non-readers of the series. Although there was a consistent trend toward higher scores, the series did not result in dramatic gains in knowledge. Older readers scored lower than younger readers; women, lower than men.

KEPPLINGER, HANS MATHIAS, & ROTH, HERBERT. Creating a crisis: German mass media and oil supply in 1973-74. *Public Opinion Quarterly*, Fall 1979, 43, 285-296.

Analyzes 1,446 articles concerned with a non-existent oil crisis in five German newspapers, representing different political views and published between September, 1973, and February, 1974. In each newspaper the supply of crude oil was described in negative terms with approximately 60% of the comments asserting that the supply situation was insufficient or that it would worsen. Thereupon the population became nervous and bought more crude oil products than ever before. As a result, short-term deficiencies of supplies from industrial producers seemed to confirm the warnings of the press.

ISEN, ALICE M., & NOONBERG, AARON. The effect of photographs of the handicapped on donation to charity: when a thousand words may be too much. *Journal of Applied Social Psychology*, September/October 1979, 9, 426-431.

Determines the practical effect of presentation of pictures of handicapped children on donation in a door-to-door solicitation. Four conditions were included: 1) picture of a smiling handicapped child, 2) picture of an unsmiling handicapped child, 3) The March of Dimes official logo with a complex verbal message, and 4) a poster with only the words "March of Dimes" printed on it. Subjects were 54 residents in an apartment complex who were approached at home with a poster in one of the four conditions. Apartments were assigned to poster conditions randomly. Significant differences in contribution size favored the no picture conditions with the condition bearing only the words "March of Dimes" receiving the largest amount.

III-19 Persuasion resulting from reading

SANDELL, ROLF. *Linguistic style and persuasion*. New York: Academic Press, 1977.

Investigates whether style affects the persuasive impact of texts and analyzes the effects of single style variables in terms of single persuasive criteria in a series of studies, each one being based upon the findings of the previous study. The purposes of the empirical studies were to determine whether there is a style of persuasion, whether style in general or a particular style has any facilitating effect on persuasion criteria, and what process, if any, can cause this facilitating effect to come about. Based upon these detailed studies with varying numbers of subjects, the researcher outlined a theory about the persuasion process which maintains that attitude change is dependent upon two factors, one cognitive (information change) and one motivational (willingness to be influenced by a particular source). Some hypotheses derived from the theory were tested in a later experiment.

III-20 Research techniques

MORRISON, J. A. Scientists and the scientific literature. *Scholarly Publishing*, January 1980, 11, 157-164.

Reviews research and expert opinion concerning the publication of scientific research. The current growth of scientific literature has led to consideration of alternatives for journal publication: synoptic versions, miniprints, and micrographic storage. Responsibility for the quality of scientific journals lies with the referees.

The basic characteristics of journals have not changed since the eighteenth century; any changes in these scientific journals are due to the way in which they are used. Possible future changes were described.

HICKS, RONALD G., & DUNNE, MICHAEL P. "Do-it-yourself" polling: a case study and critique. *Newspaper Research Journal*, February 1980, 1, 46-52.

Presents a case study of how one medium-sized newspaper set up a viable polling system, called "Insta-poll." The semi-automated polling system involved three telephone lines hooked to two tape recorders. One recorder dials the numbers; the second plays the question on each line and tapes the response. Such a procedure, based upon a random list of numbers, known as primary sampling, was compared with two other kinds of samples: one in which persons called in their opinions voluntarily and the other in which they wrote their opinions voluntarily on a coupon included in the newspaper. Primary sampling is recommended because voluntary sampling reflects how high interest people react to the topic being investigated.

MEYER, PHILIP. The comic strip problem. *ANPA News Research Report*, November 24, 1979, 2-6.

Proposes eight different models or strategies for rating newspaper comic strips. The one most often used is the referendum model in which the results of a survey reveal numbers of readers for each strip. Others that are proposed include the intensity or the proportional representation of the different classes of strips; readership combined with intensity; the attraction of a unique audience to certain strips; overlapping readership; controversial considerations; and combinations of two of the foregoing. When the eight basic models were tested, the results of only one model differed radically from the outcome of the traditional referendum. Knowledge of readership is advantageous when editors wish to drop comic strips from publication.

HASKINS, JACK B., & KUBAS, LEONARD. Validation of a method for pre-testing reader interest in newspaper content. *Journalism Quarterly*, Summer 1979, 56, 269-276, 310.

Describes the development and validation of a method for pre-testing reader interest of comic strips and cartoons. Four treatments for 52 comics were evaluated: short synopsis, long synopsis, one installment of the strip, four installments. Data from three samples (200 newspaper-subscribing households, 136 adult newspaper readers contacted in public places, 60 college students) were analyzed separately and combined. Criterion data were taken from a summary of 24 readership studies already conducted. It was concluded that reader interest can be predicted accurately by either a brief verbal synopsis of a single specimen rated by a relatively small group of subjects; the verbal synopsis was almost as predictive as a specimen. Brief descriptions were as satisfactory as longer ones. Unfamiliar comics were predicted almost as well as highly familiar ones.

GOLLIN, ALBERT E., & SALISBURY, PAUL A. Three ways of assessing newspaper readership demographics. *Newspaper Research Journal*, May 1980, 1, 27-36.

Applies three research strategies to newspaper readership data to determine merits and drawbacks of each. The three techniques examined were multiple regression analysis, AID (multivariate technique developed at the University of Michigan), and a cross-tabular analysis of demographic variables and newspaper readership. It was concluded that the three methods were complementary and should not be considered as competitive approaches to analyzing survey data.

COBBEY, ROBIN E., & MCCOMBS, MAXWELL E. Using a decision model to evaluate newspaper features systematically. *Journalism Quarterly*, Autumn 1979, 56, 469-476.

Illustrates how factor analysis can be used in a decision model to provide editors with a scientific procedure for evaluating features in their newspapers. Several data sets from readership surveys conducted earlier were examined. Readership level (read regularly, occasionally, seldom, never) was held constant. The independent variables were the number of factors to be extracted and the magnitude of the factor loadings qualifying an item as a member of a factor. These variables were manipulated to determine how they affected the clustering of readership items and the number of items which could be omitted or could be moved within the paper to provide more efficient readership.

MEYER, PHILIP. The national vs. local news controversy: a behavioral approach. *Newspaper Research Journal*, February 1980, 1, 3-9.

Explains in detail the use and advantages of multiple regression analysis as a tool for isolating impact of newspaper content on street sales. The foregoing analysis was applied in a study to determine the importance of local, national, and international news as related to newspaper sales. The data base was a sample of 462 weekday newspapers in 1977 and 1978. Single copy sales were the dependent variable. Of the 21 independent variables, 13 had effects on circulation. The two variables which explained the most variance were the season and day of the week that single copy sales were made.

STAMM, KEITH R.; JACKSON, KENNETH M.; & JACOUBOVITCH, DANIEL. Exploring new options in newspaper readership measurement. *Newspaper Research Journal*, May 1980, 1, 63-74.

Examines different techniques appropriate for newspaper readership studies. A lack of a systematic approach in the past showed inattention to what was being measured and a failure to specify frameworks in which measurement was made. A sample of 110 subscribers to a suburban daily used specific directions for marking parts read and accounting for time devoted to reading, interruptions experienced, and each new reading episode of the newspaper for a period of one week. The readership measures obtained were used to compare readership over 12 different content categories. The relative readership of each category differed considerably, depending upon the measurement used.

MCCOMBS, MAXWELL E. The '80s: news research. *Presstime*, January 1980, 2, 28-29.

Hypothesizes concerning the amount, kinds, and uses of newspaper research in the 1980s. Documenting audience responses to the newspaper and its contents was considered the most important role of news research. It was anticipated that research would play an increased role in the decision making necessary in newspaper publication. Feedback will be an important means used by editors in the evaluation of different sections of their newspapers. More concern will be shown toward the newspaper audience.

IV. Physiology and psychology of reading

IV-1 Physiology of reading

FIX, ROBERTA. Hemispheric brain functioning and its implications for reading. *Ohio Reading Teacher*, October 1977, 12, 24-25.

Cites briefly work done on the separate functions of the two hemispheres of the brain. Additionally, one study drawing similarities in hemispheric brain functioning between Piagetian conservation and silent reading tasks was referred to.

FOX, PATRICIA L. Reading as a whole brain function. *The Reading Teacher*, October 1979, 33, 7-14.

Comments on recent brain research as it pertains to reading instruction.

HARDYCK, CURTIS, & HAAPANEN, RANDY. Educating both halves of the brain: educational breakthrough or neuromythology? *Journal of School Psychology*, Fall 1979, 17, 219-230.

Evaluates the research evidence gained from commissurotomy (split-brain) patients and right hemisphere-left hemisphere studies on normal subjects in terms of its support of hemispheric specialization and its implication to reorganize teaching, testing, and curricula. Evidence suggests that transfer of findings on commissurotomy patients to normal pupils is questionable, that right-left hemisphere differences among normals are small and limited to narrow experimental context, and that current evidence is insufficient as a basis for reorganizing school programs.

TOMLINSON-KEASEY, C., & KELLY, RONALD R. Is hemispheric specialization important to scholastic achievement? *Cortex*, March 1979, 15, 97-107.

Investigates hemispheric specialization for the processing of words in two age groups and notes the relationship to academic achievement test scores. A total of 42 third-graders and 42 seventh-graders, all identified by self-report as right-handed, were used. Hemispheric specialization was determined by having subjects focus on a dot on a rear projection screen, then shown a presentation stimulus (picture or word) for 100 milliseconds (ms) two degrees to either side of the fixation point. This was followed by a two second blank period, then the probe stimulus was presented for 100 ms. Subjects were asked whether the probe matched the presentation stimulus. Grade seven pupils received 64 trials; grade three pupils, 32 trials. Only those trials on which both stimuli in a pair went to the same hemisphere were analyzed. Reaction times to the same word or picture processed by the right or left hemisphere were then compared and subjects were divided into three groups based on a difference score: right specialization, no specialization, and left specialization. For grade seven pupils, vocabulary, reading comprehension, mathematical concepts, math computation, and math application scores on the *Stanford Achievement Test* were obtained. Reading and math scores of third graders were taken from the *Metropolitan Achievement Test*. In grade three, 40% of subjects demonstrated a left hemispheric specialization for words and 33%, a right hemispheric specialization. At grade seven, 69% demonstrated a left hemispheric specialization and 16%, right. No similar developmental differences were noted for picture processing, and the distribution of subjects for pictures in the left, right, or no specialization groups was about equal for both age groups. Significant differences were noted among the three third grade groups in word knowledge, language, and spelling. Grade three subjects who demonstrated right hemispheric specialization for words scored lowest in word knowledge and language; children who showed the least tendency toward specialization scored highest. At grade seven, the group with no specialization for words scored highest, although the differences were significant only for math concepts. For picture processing, the three groups did not differ in reading scores at grade three; at grade seven, however, the left hemispheric specialization group scored significantly lower in reading comprehension than did the other two groups.

ORNSTEIN, ROBERT; HERRON, JEANNINE; JOHNSTONE, JACK; & SWENCIONIS, CHARLES. Differential right hemisphere involvement in two reading tasks. *Psychophysiology*, July 1979, 16, 398-401.

Records EEG alpha from homologous central and parietal scalp locations of 12 paid volunteer adult subjects while reading technical passages and while reading stories. Subjects were selected from a group of 27 by performance on a variety of speaking, listening and memory tasks administered in order to identify a group whose hemispheric specialization was more homogeneous. Each subject read two technical passages and two short stories. Mean reading speed was 250 w.p.m. on the technical materials and 256 w.p.m. on the stories. These rates did not differ significantly. Reading stories engaged the central area of the right hemisphere more than reading technical material. It was concluded that some aspects of reading differentially involve the right hemisphere.

WITELSON, SANDRA F. Abnormal right hemisphere specialization in developmental dyslexia. In Robert M. Knights & Dirk J. Bakker (Eds.) *The neuropsychology of learning disorders: theoretical approaches*. Baltimore, Maryland: University Park Press, 1976. Pp. 233-255. (refs. 469-521).

Studies left hemisphere specialization for linguistic processing and right hemispheric specialization for spatial processing in normal readers and children with developmental dyslexia. The 113 dyslexics (98 boys) were tested over a five year period. All had WISC-R IQ scores of at least 85, documented difficulty in reading since grade one, and were at least 1.5 years below expectancy in reading on the *Wide Range Achievement Test*. They had no detectable brain damage, emotional problems, or sensory deficits. From the same school population, 156 normal readers were selected. Each child was given perceptual tests that allowed for inferences about hemisphere specialization of cognitive processing: 1) dichotomous tactual stimulation, nonsense shapes and letters; 2) lateralized tachistoscopic stimulation, pictures of people, and 3) a dichotic listening test, digits. On the dichotomous tactual stimulation test, controls performed significantly better than dyslexics. On the tachistoscopic presentations of lateralized pictures of people, the normal readers differed significantly in left and right visual field accuracy; the dyslexics did not. Results suggested a lack of right hemisphere specialization for dyslexics. On the dichotic listening tests, normal readers were significantly more accurate than dyslexics for both ears, and there was no side (left-right ear) group interaction. Both groups processed linguistic material in the left hemisphere, but the level of processing was much lower in dyslexics. These results were discussed in terms of the neural substrate of dyslexia.

KEEFE, BARBARA, & SWINNEY, DAVID. On the relationship of hemispheric specialization and developmental dyslexia. *Cortex*, September 1979, 15, 471-481.

Compares hemispheric specialization for linguistic material of normal and dyslexic subjects under dichotic listening (Experiment 1) and hemi-retinal presentation (Experimentation 2) conditions. In Experiment 1, the subjects were 19 dyslexic and 19 normal readers, all males. Normal readers read at or above their grade level on the *Gray Oral Reading Test*, whereas poor readers averaged 2.7 years below grade level. On the WISC, and *Peabody Picture Vocabulary Test*, both groups had IQ scores between 105 and 108. The average age of both groups was 10-0. In Experiment 2, subjects were 30 dyslexic and 30 normal readers. Dyslexics read 2.7 years below grade level, normal readers read 4 months above. IQ was not matched. In both experiments, group data indicated that dyslexic subjects were, overall, less accurate in their performance than normals but that both groups showed similar right ear/visual field superiority. However, examination of individual

subject's scores in both experiments indicated that the distribution of lateralization scores for dyslexic subjects was bimodal, whereas that for normal subjects was unimodal. It was concluded that it is important to examine individual subject data in such studies and to consider the consequences of there being different types of cerebral lateralization etiologies for what has been typically considered to be a homogeneous dyslexic population.

BROOKS, RICHARD. Hemispheric differences in memory: implications for education. *The Clearing House*, January 1980, 53, 248-250.

Reviews briefly the limited research treating hemispheric memory processes. The complexity of the interaction between the linguistic-cognitive memory encoding processes of the left hemisphere and the visual imagery encoding processes of the right hemisphere is recognized. Implications drawn include the need to balance the traditional bias of American schools in favor of the verbal, logical, linear processes of the left hemisphere, and the need to recognize that substantial differences in every person's brain processes argue for a greater need for instructional individualization.

GARREN, RICHARD B. Hemispheric laterality differences among four levels of reading achievement. *Perceptual and Motor Skills*, February 1980, 50, 119-123.

Tests the hypothesis that incomplete lateralization is associated with the degree of reading deficiency. Subjects consisted of 80 white males, CA's between eight and ten, categorized into four groups of 20 according to chronological and reading age (RA) differences: I, = RA/CA differences of +12 months to -11 months; II, = RA < CA of 12 through 17 months; III, = RA < CA of 18 through 23 months; and IV, = RA < CA of 24 months or more. Reading assessment instruments included the *Peabody Individual Achievement Test*, Reading Recognition subtest. Hemispheric laterality was ascertained with tachistoscopic half-field presentations of lower case words of pre-primer difficulty. Mean scores increased with reading age. Groups III and IV revealed statistically significant poorer tachistoscopic performance than did Group I. The results suggested that all deficient readers perceive more words correctly in the left hemifield and, therefore, the right hemisphere.

LEEHEY, SUSAN COHEN, & CAHN, ANDREW. Lateral asymmetries in the recognition of words, familiar faces and unfamiliar faces. *Neuropsychologia*, 1979, 17(6), 619-628.

Lateralized tachistoscopic recognition of words, familiar faces and unfamiliar faces was studied in two experiments. Subjects were normal right handed adults. A left hemisphere advantage was obtained for word recognition, and a right hemisphere advantage for recognition of both familiar and unfamiliar faces. The right hemisphere advantage persisted when the response was recognition as well as naming. Data are interpreted in the light of other recent studies.

BUTLER, DAVID C., & MILLER, LEON K. Role of order of approximation to English and letter array length in the development of visual laterality. *Developmental Psychology*, September 1979, 15, 522-529.

Gives tachistoscopically presented arrays of English words and pseudo-words to seven- to ten-year-olds and notes hemifield superiority for recognition. A right hemifield superiority was found for all children and conditions. Five letter arrays produced a marked advantage for first letters in the right hemifield but this was not true for three letter arrays. The influence of orthographic structure appeared at all age levels and in both hemifields. The results are interpreted as

suggesting that although a left to right postexposural scanning process may contribute to general hemifield asymmetries, their change with age is more likely associated with other factors.

MCKEEVER, WALTER F. Lateralized tachistoscopic recognition, cerebral dominance, and dyslexia. *Bulletin of the Orton Society*, 1977, 27, 26-36.

Summarizes findings of several studies which employ the technique of lateralized tachistoscopic presentation of stimuli to the study of cerebral dominance. Two studies were concerned with the deaf. The findings indicated that congenital deafness resulted in greater ambilaterality of hemispheric processes involved in recognizing words and American Sign Language (ASL). For the hearing, ASL stimuli showed a significant right hemisphere superiority. The results supported auditory association area asymmetry as the major basis of left cerebral dominance for language, and suggested that the deaf may be less laterally specialized for spatial processing also. Additional studies summarized dealt with dyslexic adolescents. The author states that chronic dyslexia is not due to atypical hemispheric dominance, and failures of the normally dominant hemisphere to suppress the reversed images of letters seen by the right hemisphere. Dyslexics were characterized by normal left hemisphere dominance and normal visual responsiveness. There appears to be some dysfunctional visual-associative cortex in the left hemisphere and impaired sequential verbal memory. Thus the dyslexic has markedly suppressed left field recognition under normal bilateral reading conditions and an unstable preservation of the sequence of words just read, a combination that disrupts the reading process. The studies reviewed do not support Orton's hypothesis of weak cerebral dominance.

DAY, JAMES. Visual half-field word recognition as a function of syntactic class and imageability. *Neuropsychologia*, 1979, 17(5), 515-519.

Explores the intact right hemisphere's ability to recognize words. Twenty-four right-handed college undergraduates participated in the study. Groups of 32 nouns, adjectives, and verbs, each containing 16 high and 16 low imagery words, were selected. In addition, 96 pronounceable nonwords were developed by altering one letter in each of the 96 words. Subjects were then shown vertically oriented strings of four or five letters appearing in the left and right visual half-fields and asked to discriminate words from nonwords. There was a significant right visual half field (left hemisphere) advantage for low imagery nouns, adjectives, and verbs as well as high imagery verbs, but not for high imagery nouns and adjectives. The author concluded that right hemisphere word recognition is related to both imageability and syntactic class.

PITBLADO, COLIN; PETRIDES, MICHAEL; & RICCIO, GARY. Visual-field asymmetries in letter recognition: evidence for asymmetry in early visual registration. *Perceptual and Motor Skills*, August 1979, 49, 183-191.

Describes two experiments on visual-field differences in letter recognition. Subjects were 16 adult volunteers in the first study and eight right-handed adults in Study 2. In Study 1, a bright pre-exposure field with a black fixation point was utilized, and the right visual field was found to be dominant. At the same time, a large number of trials occurred in which subjects failed to detect the presence of the flashed target. This was confirmed in the second study in which use of dark pre-exposure fields eliminated blank responses and led to higher overall accuracy, with no visual field differences. The authors interpret their findings as being an indication of the asymmetric elevation of the thresholds for detecting the presence of stimuli in the right and left fields. The detection process produces asymmetries rather than the encoding, storage, or interhemispheric transfer processes. Implications for the interpretation of laterality data with normal subjects are discussed.

KEMP, ALICE A., & HAUDE, RICHARD H. Visual field-cerebral hemisphere differences in perception of visual nonverbal stimuli. *Perceptual and Motor Skills*, June 1979, 48, 1127-1131.

Tests differences between left and right visual fields accuracy of recognition for paired verbal and nonverbal stimuli presented at below threshold duration and at minimal intensity. Subjects were 16 graduate and undergraduate volunteers who were checked for handedness and eye dominance and then asked to fill out a paper-pencil n-Achievement test. Performance on the visual recognition task was compared with scores on the n-Achievement test. Findings indicated superior recognition of physiognomic stimuli presented in the left visual field and above-chance-level performance of subjects' manual responses for these below-threshold stimuli. Relationship between n-Achievement scores and right- and left-hemifield scores, and tests on right-field scores between high and low n-Achievement groups did not attain significance at the .05 level.

MARTIN, MARYANNE. Hemispheric asymmetries for physical and semantic selection of visually presented words. *Neuropsychologia*, 1978, 16(6), 717-724.

Studies in two experiments hemispheric specialization for different levels of encoding visually presented words. In the first, eight right-handed adults were presented bilaterally with pairs of words which were either short or long and names of either plants or animals. Ninety-six lists, each containing four pairs of words, were prepared so that each pair contained one short and one long word, one representing a plant and the other, an animal. Prior to each trial, subjects were shown a card that had information about category and side of screen the words were to appear on; following the trial, subjects saw another card giving category information only. Subjects saw first the preceding card, then were shown four pairs of words presented at the rate of two pairs per second. Stimuli were presented between 1° and 4° of visual angle to the right and to the left of center. Following the list, one of the category words (animal, plant, short, or long) appeared on either the left, right, or both sides of the screen. Subjects had to recall all of the words of the appropriate category and side(s). Physical selection produced better recall for the right visual field than for the left visual field presentation, but semantic selection did not produce a visual field effect. Experiment 2 was similar. The author interprets the findings as suggesting that it may be predominantly the physical rather than the semantic analyses of words which gives rise to the left hemisphere advantage of linguistic material.

WIEGEL-CRUMP, CAROLE ANN. Rehabilitation of acquired dyslexia of adolescence. In T. Gary Waller & G. E. MacKinnon (Eds.) *Reading research: advances in theory and practice*, (Vol. 1). New York: Academic Press, 1979. Pp. 171-186.

Concerns recovery of linguistic competence in adolescents demonstrating dyslexic impairment following either surgical or traumatic cerebral insult. Three personalized approaches to reeducation are described.

HUDSPETH, WILLIAM. Neurometric assessment of learning disabilities. In Malcolm P. Douglass (Ed.) *All things considered . . . Reading, the process of creating meaning for sensed stimuli. Claremont Reading Conference 41st Yearbook*, 1977. Pp. 125-132.

Reviews the possible uses of 1) quantitative electroencephalography with correlated age-dependent norms and 2) the waveform and anatomic distribution of cortical evoked responses in the identification, remediation and follow-up of learning disabled children.

PIROZZOLO, FRANCIS J., & RAYNER, KEITH. Cerebral organization and reading disability. *Neuropsychologia*, 1979, 17(5), 485-491.

Compares normal readers' and poor readers' ability to identify laterally and bilaterally presented visual stimuli. Subjects were nine normal readers and nine disabled readers matched on total WISC IQ (average was 105) and age (average was 12-5). Poor readers read at least two years below grade level, normal readers read at or above grade level. Faces or words were viewed binocularly in a Gerbrands 3-field tachistoscope. Faces were six sets of four pictures of boys. Words were nine sets of five lower-case five-letter words constructed to include a target (e.g., plane), a visually confusable word (e.g., phone), a visually confusable word with same outline (e.g., gloom), a phonetically confusable word (e.g., train), and a foil (e.g., house). There were also eight sets of three upper-case four-letter words, including a target (e.g., BEAR), a visually confusable word (e.g., DEAR) and a phonetically confusable word (e.g., FARE). Subjects received unilateral presentation in the left visual field and right visual field and bilateral presentations. Poor readers did not display the right visual field-left hemisphere superiority for word recognition served in normal readers. Results were interpreted as supporting Orton's incomplete lateralization hypothesis.

LEONG, CHE K. Lateralization in severely disabled readers in relation to functional cerebral development and synthesis of information. In Robert M. Knights & Dirk J. Bakker (Eds.) *The neuropsychology of learning disorders: theoretical approaches*. Baltimore, Maryland: University Park Press, 1976. Pp. 221-231. (refs. 469-521).

Tests the postulate of maturational lags in the functional cerebral development of disabled readers with a dichotic listening experiment and verifies the postulate of simultaneous-successive syntheses of information with a correlation analysis of perceptual-cognitive tasks. Experimental subjects were 58 dyslexic boys, averaging 111 months of age, with normal hearing, 2.5 years below grade in reading (no instrument named) and with an average nonverbal IQ of 102 (Lorge-Thorndike). The 58 controls had average IQ scores of 108, averaged 111 months in age, and were above average readers. In the first experiment, the stimulus material was a prepared tape of a dichotic list of three sets of digits (from 0-9) with five series in each set ranging from two-digit pair to four-digit pair series. Scoring was done by recording the first digit the subject reported correctly and counting the digits correctly reported. The significant interaction effects found were interpreted as evidence of a lag in the functional cerebral development of the disabled readers. In the second experiment, the same 116 subjects took eight tests: 1) *Ravens Colored Progressive Matrices*, 2) *Figure Copying Test*, 3) *Memory-for-Designs Test*, 4) *Auditory-Visual Coding*, 5) *Visual Short-Term Memory Test*, 6) *Auditory Serial Recall Task*, 7) *ITPA Visual Sequential Memory Subtest* and 8) *ITPA Auditory Sequential Memory Subtest*. The results of principal component analyses and alpha factor analyses were interpreted to demonstrate the statistical and psychological realities of the Luria-Das simultaneous-successive dimensions.

LEONG, CHE KAN. Laterality and reading proficiency in children. *Reading Research Quarterly*, 1980, 15(2), 185-202.

Discusses some current concepts of the laterality-reading relation, including strephosymbolia, visual half-field studies, and dichotic listening studies. The author pointed out that the field of cerebral mechanisms underlying reading disabilities is both large and complex. In addition, it touches on numerous disciplines. Because of this complexity and the interrelatedness of the workings of the brain, findings in this area are far from conclusive. Although poorly established laterality patterns or maldevelopments of the occipital-temporo-parietal lobe do not by themselves fully explain retardation in reading, they do, in combination with other factors, make the child more susceptible to learning disorders.

PATTERSON, K. E. Phonemic dyslexia: errors of meaning and the meaning of errors. *Quarterly Journal of Experimental Psychology*, November 1978, 30, 587-607.

Examines the paralexical errors of two phonemic dyslexic patients in reading single words. The two patients, 25 and 75 years of age, both displayed right-sided hemiplegias and no visual defects. The *Boston Diagnostic Aphasia Test* indicated that both had profiles resembling Broca's aphasia. Two experiments were conducted. In Experiment I it was shown that in the patients' assessment of their own reading errors, they showed differences as a function of error types. The patients generally identified their own semantic paralexias as errors, but classified their derivational and visual paralexias as correct. In Experiment II, the patients were asked to select one of three spoken words to match one printed word. The findings confirmed the findings of Experiment I. The results were discussed in terms of a theoretical account of the processing of written words by normal readers and phonemic dyslexics.

KAPUR, N., & PERL, N. T. Recognition reading in paralexia. *Cortex*, September 1978, 14, 439-443.

Presents a case study of the reading performance of one paralexical patient (P.D.). P.D. had suffered a stroke and had complete occlusion of the left middle cerebral artery, marked right hemiparesis and aphasia. P.D. was asked to read orally a list of 650 words. He read 44.2% correctly, 16.1% incorrectly, and gave no response for 39.7%. He was then given a recognition reading task in which he was presented with: 1) the target word on which he had made errors (the 16.1% list) and 2) 30 randomly selected words (neutral) from those for which he had given no response (from the 39.7% list). As each was presented, P.D. was to choose between two oral responses provided by the examiner: the paralexical response P.D. made on the oral test and the correct word. From the 30 neutral words, P.D. correctly recognized 95%; from the paralexical responses to the target words, P.D. correctly recognized 54%, little more than chance. The authors argue that such behavior cannot be accounted for by a failure at the level of retrieval of the correct oral response and present four neural representations or codes necessary for a word recognition theory to account for this behavior.

KURACHI, MASAYOSHI; YAMAGUCHI, NARIYOSHI; INASAKA, TOHRU; & TORII, HSAKU. Recovery from alexia without agraphia: report of an autopsy. *Cortex*, June 1979, 15, 297-312.

Presents the case history and autopsy findings of a patient who suffered two cerebrovascular accidents and had pure alexia. The patient subsequently recuperated from the pure alexia on both occasions and then died shortly after recovery. The clinico-pathological findings were compared to those of 31 known autopsy cases. The authors proposed from the findings that the lesion of the left spleno-cuneate system produces alexia without agraphia but it may ameliorate. When the spleno-cuneate system is also involved, alexia becomes persistent, and it may accompany agnosia or optic aphasia.

BOLL, THOMAS J.; RICHARDS, HERBERT; & BERENT, STANLEY. Tactile-perceptual functioning and academic performance in brain-impaired and unimpaired children. *Perceptual and Motor Skills*, October 1978, 47, 491-495.

Tests the hypothesis that tactile perception is a useful predictor of academic test performance on both brain-impaired and unimpaired children. Subjects were 92 children, aged nine to 14-11. Of these 42 were documented as brain-impaired and 50 served as controls. All were given the *Tactile Finger Localization Test*, the *Finger Tip Number Writing Test*, and the *Tactile Form Recognition Test* as well as the Reading Recognition, Reading Comprehension, Spelling, and Mathematics subtests of the *Peabody Individual Achievement Test*. Brain-impaired

subjects made significantly more errors and performed at a significantly lower grade level on the achievement measures than did the controls. For both groups, number of tactile perceptual errors was negatively correlated with Peabody subtest performance. The authors point out that while presence or absence of brain impairment may predict group averages, it is not a sufficient predictor of academic performance for individual children.

FERGUSON, H. BRUCE; SIMPSON, SUZANNE; & TRITES, RONALD L. Psychophysiological study of methylphenidate responders and nonresponders. In Robert M. Knights & Dirk J. Bakker (Eds.) *The neuropsychology of learning disorders: theoretical approaches*. Baltimore, Maryland: University Park Press, 1976. Pp. 89-97. (refs. 469-521).

Evaluates the hypothesis that a subgroup of hyperkinetic (minimally brain dysfunctional) children may be underaroused instead of overaroused. Because underaroused and overaroused children react differently to methylphenidate (a stimulant drug), the authors attempted to differentiate by psychophysiological measures subjects known to be "good" responders to methylphenidate from subjects known to be "poor" responders to the drug. An unreported number of boys, ages 7-12, who had been referred to the Neuropsychology Laboratory of the Royal Ottawa Hospital and who were either "good" or "poor" responders to methylphenidate, were the experimental subjects. Controls were an unreported number of reading disabled children screened to rule out hyperactivity. Skin resistance, heart rate and reaction time were the measured variables. Subjects were exposed to tasks that created no arousal (sitting quietly) and tasks that created arousal (anticipation of a reaction time test). There were no significant differences between any of the subjects on any of the variables in aroused or relaxed conditions. The authors concluded that the proposed theory that arousal levels differentiate normals from hyperaction may be oversimplified.

EATON, MARIE; SELLS, CLIFFORD J.; & LUCAS, BETTY. Psychoactive medication and learning disabilities. *Journal of Learning Disabilities*, August-September 1977, 10, 403-410.

Describes a case study report of a seven-year-old emotionally disturbed boy with some features of the hyperkinetic program. The child was placed on a double-blind placebo control program to assess the effects of two medications on academic and social behaviors. Two academic behaviors were monitored: oral reading of words in context and writing the letters of the alphabet. Both academic and social behaviors improved with medication, but the effects varied depending on the drug, dosage, and time of day. The authors stress the importance of careful monitoring of children treated with psychoactive medications.

SOLAN, HAROLD A. Learning disabilities: the role of the developmental optometrist. *Journal of the American Optometric Association*, November 1979, 50, 1259-1266.

Describes the role of the optometrist in treating children with learning disabilities. The author states that anyone experiencing learning disorders should see an optometrist periodically. The literature does not support the conclusion that a high correlation exists between visual acuity and learning to read. Visual disorders and their relationship to reading problems are briefly described along with citations to the research literature in these areas. Etiological, diagnostic, and therapeutic factors in learning disorders are discussed, stressing visual functional disorders, perceptual-motor and developmental lags, and cognitive style. Research in these various areas is briefly referred to.

LÉTOURNEAU, JACQUES E.; LAPIERRE, NICOLE; & LAMONT, ANNE. The relationship between convergence insufficiency and school achievement. *American Journal of Optometry and Physiological Optics*, January 1979, 56, 18-22.

Screens 735 third- through sixth-grade children for convergence ability and determines whether convergence insufficiency is related to lower academic achievement. Each child was tested six times by one of two clinicians. The mean of the six readings was used. The 41 boys and 29 girls identified with abnormal convergence were then given a complete visual examination. A comparison was then made on academic achievement between 25 pupils who exhibited convergence insufficiency and 251 who did not. No significant differences were noted between groups in reading, spelling, composition, or grade point average.

BEDWELL, C. H.; GRANT, R.; & MCKEOWN, J. R. Visual and ocular control anomalies in relation to reading difficulty. *The British Journal of Educational Psychology*, November 1978, 48, 355.

Presents an abstract of a study in which good and poor readers (based on the results of the *Neale Analysis*) were given visual acuity tests for distance vision on the Snellen Visual Acuity chart. Also measured was near- and far-point binocular acuity for static viewing and stereoscopic vision on a standard vision screener. The research supports, the authors concluded, that problems of dynamic viewing and ocular control while reading are important.

ANGLE, JOHN, & WISSMANN, DAVID A. Age, reading, and myopia. *American Journal of Optometry and Physiological Optics*, May 1978, 55, 302-308.

Tests two theories of myopia, the use-abuse theory and the biological theory, to determine which explains the appearance and progression of myopia in a sample of 12- to 17-year-olds in the U.S. The use-abuse theory postulates that myopia is an outcome of continual focusing on a near object, as in reading. The biological theory predicts that either age from birth or age from puberty explains any tendency for myopia to appear. Data came from 6,295 individuals who had been included in Cycle III of the Health Examination Survey conducted jointly by the U.S. Public Health Service and the U.S. Bureau of the Census between March 1966 and March 1970. Regression analysis results indicated that education explained all the tendency of myopia to appear and progress among 12- to 17-year-olds. However, it was not shown that the amount of reading, as determined by highest level of education, was a major factor in explaining the whole distribution of myopia; rather, highest level of education accounted for only two percent of the variance of myopia.

CHERNICK, BRUCE. Profile of peripheral visual anomalies in the disabled reader. *Journal of the American Optometric Association*, October 1978, 49, 1117-1118.

Performs a visual screening on 80 disabled readers, aged eight to eleven. Subjects scored two or more years below grade level in reading on the *Stanford Achievement Tests*. The sample included 49 males and 31 females. The results indicated a significantly higher percentage of failures in tests of fusion, accommodation, and oculomotor skills relative to visual acuity and ocular pathology. The author cites the need to include a more comprehensive vision screening to detect the visual problems most common in disabled readers.

BEDWELL, C. H.; GRANT, R.; & MCKEOWN, J. R. Visual and ocular control anomalies in relation to reading difficulty. *British Journal of Educational Psychology*, February 1980, 50, 61-70.

Describes an investigation into the relation among binocular function, ocular control, and reading difficulty in 25 poor readers and 15 good readers.

Reading ability was assessed by the *Schonell R4 Test* and spelling ability was determined by the *Schonell Dictation Test E*. Poor readers had an average CA of 13-7 and average reading and spelling ages of 10-7 and 9-8, respectively. Good readers had an average CA of 13-7 and average reading and spelling ages of 13-6 and 13-8. Five tests of vision were administered: 1) a measure of static visual acuity using the Snellen, 2) a measure of binocular vision using the *Titmus Vision Screener*, 3) a measure of range of vision (the degree to which eyes can drift out of line and still see a single image) using polarized vectograms, 4) a measure of double vision using two slides that were slowly pulled apart and 5) a measure of dynamic viewing, or binocular eye behavior while reading aloud a passage from *Neale's Analysis of Reading Ability*. The data obtained from these static and dynamic tests were then compared for the successful and retarded reading groups. It was found that the retarded group showed a significant relation between anomalies of dynamic binocular viewing and reading attainment. On the tests under static viewing only one significant difference, poor stereopsis, could be found between the two groups.

LEVINE, MAUREEN JULIANNE. Physiological responses in intrasensory and intersensory integration of auditory and visual signals by normal and deficit readers. In Robert M. Knights & Dirk J. Bakker (Eds.) *The neuropsychology of learning disorders: theoretical approaches*. Baltimore, Maryland: University Park Press, 1976. Pp. 99-110. (refs. 469-521).

Compares the psychophysiological parameters of attention in the processing and recall of sensory integration information found in deficit readers and in normal readers. Additionally, comparisons were made between two groups of deficient readers, those classified as primary and those classified as secondary readers. Subjects were 48 males, ages nine to 13, with a mean IQ of 112. Of this group, 16 who were reading at or above expected grade level were classified as normal readers (NR). The *Minnesota Percepto Diagnostic Test* was used to classify the reading deficient group into 16 primary readers and 16 secondary readers. These children all had a reading level one or more years below expected grade level based on age and IQ. Subjects were presented with auditory and visual stimulus pairs of digits such that eight experimental conditions that required paired and serial verbal recall with alteration of first recalled modality were used. Electrodes were attached to subjects and cardiac activity and other physiological signs were monitored. Both heart rate deceleration and heart rate variability accompanied an increase in attention. Heart rate deceleration, however, occurred only in the NR group, suggesting a defective attentional mechanism in deficient readers. A significant decrease in heart rate variability in the secondary readers group indicated a high level of ineffective attention. Change in heart rate variability occurred in NRs across the tasks but not in the deficient readers. The stable level of heart rate variability with no evidence of heart rate deceleration in the primary readers group suggested that these readers do not attend at a sufficient level to promote adequate information processing. The author proposes a model based on attentional and cognitive factors.

IV-2 Sex differences

FINN, JEREMY D.; DULBERG, LORETTA; & REIS, JANET. Sex differences in educational attainment: a cross-national perspective. *Harvard Educational Review*, November 1979, 49, 477-503.

Examines critically the literature on cross-national studies of educational attainment with emphasis on sex differences. Marked discrepancies in terms of school attendance, literacy, academic performance, or preparation for gainful employment between sexes were found. On a world-wide basis, using 1970 figures, 28% of males and 40.3% of females were found to be illiterate. The authors conclude that, regardless of the type of educational system or extent of opportunity, women are universally disadvantaged educationally.

FINN, JEREMY D. Sex differences in educational outcomes: a cross-national study. *Sex Roles*, February 1980, 6, 9-26.

Describes sex differences in science and reading achievement and attitudes for nationwide samples of 14-year-olds in the United States, England, and Sweden. Data were drawn from the files of the International Assessment for the Evaluation of Educational Achievement (IEA). Complete profiles were available on 5,193 U.S. students, 2,777 students in England, and 2,324 Swedish students. Measures included the following IEA tests: *Reading Comprehension*, *Word Knowledge*, *Reading Attitudes* (two measures), *Science Cognitive Achievement* (four measures), and *Science Attitudes* (four measures). Patterns of sex differences were similar across the three nations. Boys and girls had comparable reading and vocabulary levels, while girls tended to have more positive reading habits and attitudes. Boys outperformed girls in science and generally had a more positive attitude toward science. However, girls believe science to be as important as boys do. In England, students in one-sex schools outperformed their peers in coeducational schools. Girls in one-sex schools tended to outperform their male counterparts in reading comprehension, but this finding was not seen in English coeducational schools.

SWAN, DESMOND. Sex differences in reading achievement. In Vincent Greaney (Ed.) *Studies in Reading*. Dublin: The Educational Co., 1977. Pp. 84-90.

Reviews the research on sex differences in reading under four headings: those finding boys ahead, those finding girls ahead, those finding no differences between boys and girls, and findings from studies done in Ireland.

CHANSKY, NORMAN M.; CZERNIK, JOANNE; DUFFY, JAMES; & FINNELL, LILLIAN. Sex differences and initial reading performance. *Psychological Reports*, April 1980, 46, 523-526.

Compares the ability of readiness test performance to predict first grade achievement for boys and girls. Subjects were 200 boys and 200 girls randomly drawn from 1500 first grade children in five middle-class elementary schools. The letter and number subtest scores of the *Metropolitan Readiness Tests* administered to those children in kindergarten were taken from the pupils' files. Also collected from the school records were the scores from the *Cooperative Reading Test* and the students' numerical first grade marks. Sex differences for each variable were examined and intercorrelations among the variables for each sex separately were calculated. Regression equations were developed for half of each sample (boys and girls) and applied to the other half, resulting in calibration and cross-validation samples for boys and for girls. Girls did score significantly higher than boys on letters, numbers, reading, and grades, but the author concludes that these differences were not psychologically relevant. The predictive ability of letter and number knowledge in kindergarten was not significantly different for boys than for girls. Combining the predictors (number and letters) did not appreciably increase the predictive ability as compared to either predictor alone.

BROWN, FRED G. Sex bias in achievement test items: do they have any effect on performance? *Teaching of Psychology*, February 1980, 7, 24-25.

Asks whether students perform better on test items containing a reference to their own sex than on items referring to the opposite sex or to those containing no sex referents. Data were collected from 289 males and 736 females, all undergraduates enrolled in educational psychology courses. A total of 1,531 test items from regularly scheduled unit and final examinations were examined. Test items were classified as male-referent, female-referent, no-referent, and other. Numbers of male- and female-referent items were not balanced. Item difficulty indices were obtained for males and females on each of the 1,531 items. Across all item categories, females averaged 3% more correct responses than did males. Females also performed better on all categories of items. With items containing a female referent, the female advantage increased to 4.2%; with items containing a male referent, the female advantage decreased to 1.7%.

BANK, BARBARA J.; BIDDLE, BRUCE J.; & GOOD, THOMAS L. Sex roles, classroom instruction, and reading achievement. *Journal of Educational Psychology*, April 1980, 72, 119-132.

Evaluates the research evidence pertaining to six hypothetical constructs of sex differences in reading achievement among American school children. Suggests that a multiple factor hypothesis incorporating teacher discrimination, feminization of reading, differential classroom responses of pupils, and sex relevant (or irrelevant) teaching style holds useful implications for classroom practice and research.

ASHER, STEVEN R. Influence of topic interest on black children's and white children's reading comprehension. *Child Development*, September 1979, 50, 686-690.

Examines the contribution of interest in a topic to race differences in reading performance and also studies sex and race differences in children's reading interests. Subjects included 33 black and 33 white fifth graders, matched for sex. Using available test scores, it was determined that white children had significantly higher test scores than blacks, but that there were no significant sex differences in scores. Interest assessment was done by means of a 25-item picture instrument in which children rated each picture slide presented on a seven-point interest scale. Later children were given six cloze passages to read, corresponding to topics in each child's three highest- and three lowest-rated pictures. In addition, children used a seven-point scale to indicate how much they would like to read more about each of the six topics. Both black and white children scored better on their high- than low-interest material. Performance differences between the two groups were not reduced on high-interest material. Boys' interests were distinctly sex-typed, but girls' interests were only moderately so. There was a considerable overlap in interests between races.

JOHNSON, E. G.; GIBBONS, L.; KEPSI, H.; & PARKER, R. Differential effects of sex-oriented reading material on children's reading performance. *Australian Journal of Education*, October 1979, 23, 297-298.

Examines the hypothesis that sex-inappropriate material leads to a rejection of dissonant information and impaired recall. Sixty year four (CA 9.5 - 10.5) pupils read three cloze passages, "Neutral," "Male-oriented" and "Female-oriented" in central character focus. Passages were 250 words in length, with 20 deletions, and identified as year-four appropriate readability using the Fry graph. Boys and girls were paired for reading performance on the neutral passage and randomly assigned to the two groups. Order of test administration was counterbalanced. Ten

recall questions of a cloze format were administered in a second testing. A significant ($<.05$) interaction was identified between sex and type of material under the recall condition, but not for cloze comprehension. Sex of tester had no significant effect on performance.

KLEIN, HOWARD A. What effect does non-sexist content have on the reading of boys and girls. *Reading Improvement*, Summer 1979, 16, 134-138.

Purports to determine the effect of sex-related and sex-unrelated content on the understanding of materials read. Six stories were selected for the study. One set contained three stories about airplanes and were written at readability levels four, six, and eight. Three other stories, matched for readability, had female main characters. Subjects were 23 boys and 23 girls, all superior readers, in a combined fifth and sixth grade classroom. All stories were read by each child, rated on a six-point interest scale, and then comprehension was assessed with a multiple-choice test. Boys overwhelmingly preferred the airplane stories and girls showed a strong preference for the stories about women. Girls' scores for the female main character stories were significantly higher than boys' scores. Boys had a negligibly higher mean score than did girls on the airplane content stories.

JORM, A. F. Sex differences in the reading process revealed by a letter-detection task. *Quarterly Journal of Experimental Psychology*, May 1979, 31, 319-328.

Undertakes a series of experiments to test the view that the sex differences found on a letter detection task was due to greater use of phonological recoding by females. In the first experiment, subjects were university students in an education curriculum; in the other three studies, high school students were used. In the first experiment, the 42 male and 42 female subjects were given a scrambled-word passage, told to read it and to circle each instance of the letter "t." The other three experiments were variations of this task. Contrary to the findings of a previous study in which females appeared to have greater difficulty than males in detecting target letters, the findings showed a reverse sex effect. The author suggests several possible hypotheses for the sex differences noted.

NACHSHON, ISRAEL. Directional scanning of visual stimuli: set effects and sex differences among subjects with opposite reading habits. *Journal of Cross-Cultural Psychology*, June 1979, 10, 231-242.

Examines the effect of directional set of horizontal scanning tendencies of visual stimuli on male and female subjects with opposite left-right reading habits. Forty English readers and 40 Hebrew readers were presented with horizontal arrays of letter stimuli (either English or Hebrew letters) and of non-letter stimuli (circle and bar patterns) for scanning. Half of the subjects were presented with letter stimuli first (set condition), and the other half were presented with the non-letter stimuli first (no-set condition). The results showed that experimental set affected the direction of scanning of non-letter as well as of letter stimuli. This effect was usually stronger for males than for females. Differential directional effects were found for English and for Hebrew letters. Reading habits affected performance on the non-letter tests and interacted with the directional stimulus effects on the letter tests.

JOHNSON, CAROLE SCHULTE, & GREENBAUM, GLORIA R. Are boys disabled readers due to sex-role stereotyping? *Educational Leadership*, March 1980, 37, 492-497.

Reviews the research on sex differences in reading disabilities and examines the nature of sex-role stereotyping in the content of basal readers, cultural expectations, and attitudes toward reading.

BAKKER, DIRK J.; TEUNISSEN, JETTY; & BOSCH, JOOP. Development of laterality-reading patterns. In Robert M. Knights & Dirk J. Bakker (Eds.) *The neuropsychology of learning disorders: theoretical approaches*. Baltimore, Maryland: University Park Press, 1976. Pp. 207-220. (refs. 469-521).

Conducts two experiments to demonstrate the influence of perceptual complexity on the laterality-reading relation. In the first experiment, 23 boys and 22 girls (both with an average age of 8-6) from a middle class elementary school were given three tasks: 1) a dichotic listening test, 2) the *Word Naming Test-Form B* (a test of how many words can be read in 1 minute) and 3) *Form A of the Word Naming Test*, but masked (parts of the words were omitted). Word Naming and Masked Word Naming were similarly associated with ear advantage, but there was a sex effect. The authors suggested that third grade girls read well only with their left hemisphere, but third grade boys may be equally proficient with either hemisphere. To explore further the effects of age of boys' asymmetry-reading patterns, a second study was conducted in which the same tasks were administered but the children were of varying ages: 20 boys and 20 girls with an average age of 11-0, 20 boys and 20 girls with an average age of 9-0, and 20 boys and 19 girls with an average age of 7-6. All were 100% right-handed as measured by subtest 2 of the *Harris Tests of Lateral Dominance*. There were no significant differences in ear asymmetry for sex or grades. It was concluded that the present laterality measure was not sensitive enough to differentiate reading performance toward the end of the normal learning to read stage. The results were discussed in terms of the possibility of different reading strategies resulting from left and right dominant young children.

ALLEN, MAX, & WELLMAN, MARY M. Hand position during writing, cerebral laterality and reading: age and sex differences. *Neuropsychologia*, 1980, 18(1), 33-40.

Reports a study designed to test the thesis that hand position during writing reflects reading performance. Participants were 173 right handed children, ranging in age from 77 to 124 months, all with normal intelligence and no uncorrected auditory or visual deficiencies or emotional disorders. Measures administered were the *Metropolitan Readiness Tests* (MRT); the Word Knowledge, Word Analysis, and Reading subtests of the *Metropolitan Achievement Tests* (MAT); and a hand-position index. All measures were not obtained for all children. The MRT score was used as a covariate in partialling out variances due to subject differences in intellectual, emotional, and physical development. The hand-position index (HPO) was determined by noting the subject's pencil position while writing a sentence a day for ten successive school days. Position was scored as 1, 2, or 3 for normal, horizontal, or inverted, respectively. Girls had lower HPO scores than boys; older children had lower scores than younger; the difference between sexes decreased with age. Children who wrote with the normal hand position achieved higher reading scores than those who did not.

IV-3 Intellectual abilities and reading

GLOSSOP, J. A.; APFLEYARD, R.; & ROBERTS, C. Achievement relative to a measure of general intelligence. *British Journal of Educational Psychology*, November 1979, 49, 249-257.

Derives relative achievement measures from regression residuals of four achievement measures against scores on the *AH4* test of general intelligence. Relationships between the four sets of residuals and the relationships of these residuals with two background variables, sex and social class, and two behavioral variables,

school absences and behavioral ratings, were obtained. Subjects consisted of 178 students, ages 15-16, from a British comprehensive semi-rural school. In addition to the *AH4* test, subjects were administered the *Manchester Reading Comprehension Test* and the *Graded Arithmetic-Mathematics Test*. Other data included a grade on a seven-point scale for an English essay and a score on the 16+ examination consisting of the sum of the GCE O-level and CSE passes obtained by each student. Using reliability estimates for reading and mathematics, it was found that 69% of the variance in the regression residual for reading comprehension and 56% in mathematics were independent of unreliabilities in the test. Analysis of the relationships between the four regression residuals indicated a single major component on which all the residuals were highly loaded; a low correlation coefficient obtained between essay scores and mathematics scores with IW controlled suggested the involvement of two independent skills. Students from lower socioeconomic backgrounds, with poor records of attendance, and poor behavioral ratings obtained lower scores relative to their IQ for all achievement measures. Boys tended to score lower than girls except in mathematics where no significant sex differences were found.

SEWELL, TREVOR E. Intelligence and learning tasks as predictors of scholastic achievement in black and white first-grade children. *Journal of Psychology*, Winter 1979, 17, 325-332.

Provides evidence about the comparative effectiveness of traditional intelligence tests and learning tasks for black and white children. Two samples were used: a white middle-class first-grade sample of 70 and an inner-city black first-grade sample of 21. The *Stanford-Binet Intelligence Scale* was administered as the traditional measure. Learning tasks were drawn from three learning assessment procedures: 1) diagnostic teaching; 2) paired-associate; and 3) learning-potential assessment using the *Raven's Coloured Progressive Matrices* in a pretest-coaching posttest format. IQ correlated moderately with achievement for both groups but was a more reliable predictor for whites than for blacks. Certain learning tasks were better predictors for blacks than IQ.

BERGAN, JOHN R., & PARRA, ELENA B. Variations in IQ testing and instruction and the letter learning and achievement of Anglo and bilingual Mexican-American children. *Journal of Educational Psychology*, December 1979, 71, 819-826.

Examines the effects of variations in language of test administration on IQ performance and on measured IQ effects on academic skill learning and achievement in preschool age bilingual children. Additionally, IQ performance and IQ effects for bilingual children tested in different languages were compared with Anglo children tested in English. Twenty-four Anglo and 72 Mexican-American children were involved. Four verbal and three performance subtests of the *Wechsler Preschool and Primary Scale of Intelligence* (WPPSI) were used to determine IQ. A letter identification test was used as a pretest measure and again during instruction. For the former, scores consisted of number of letters correctly identified; for the latter, scores consisted of the total number of correct identification responses to the letters *p*, *b*, *d*, and *q* presented on five test trials. Anglo children were given the WPPSI in English, while Mexican-American children were assigned randomly to one of three WPPSI testing conditions: 1) in English, 2) in Spanish, and 3) in both languages. In the instructional phase, children within each of the four language groups were assigned randomly to one of the three instructional conditions involving individual instruction in both English and Spanish in the letter learning task or to a control condition. The experimental conditions consisted of modeling, feedback, or modeling and feedback. Anglo children had higher mean IQs and better pretest scores than did Mexican-American children. Differences between the two were negligible on the letter-learning task. Mexican-American

children tested on the WPPSI in English scored significantly lower than children tested in English and Spanish ($<.05$). Mexican-American children tested in Spanish or in English and Spanish did not differ significantly in IQ from Anglo children. Regression analyses revealed no significant differences among IQ predictions of letter task performance for different testing conditions and instructional variations.

GUTKIN, TERRY B. Bannatyne patterns of Caucasian and Mexican-American learning disabled children. *Psychology in the Schools*, April 1979, 16, 178-183.

Investigates the measurement properties of Bannatyne's recategorized WISC-R scores and the utility of these scores with Caucasian and Mexican-American learning disabled children. Bannatyne's recategorization of WISC-R subtest scores are called Spatial, Conceptual, and Sequential. Previous research had indicated that learning disabled children demonstrated a Spatial > Conceptual > Sequential score pattern. Subjects were 53 Caucasian and 87 Mexican-American children, ranging in age from 6 to 17 years, all classified as learning disabled. WISC-R scores were taken from the subjects' school records. The Caucasian children as a group demonstrated the Spatial > Conceptual > Sequential pattern, but the Mexican-American children did not. Individually, however, only 30% of the Caucasians were characterized by this pattern. The reliabilities of the Spatial > Conceptual > Sequential scores were .89, .92, and .96, respectively. The efficacy of using Bannatyne's recategorized scores for individual diagnostic purposes is challenged.

REIFF, JUDITH C.; CANELLA, GAILE S.; & PERRY, BARBARA L. Relating readiness for reading with perception and visual seriation skills. *Reading Improvement*, Fall 1979, 16, 236-241.

Proposes to investigate the relationship between visual ordering and perception as assessed by cognitive tasks and scores on reading readiness concepts. The 34 kindergartners were given the *Roehm Test of Basic Concepts*, the *SRA Primary Mental Abilities Tests* (PMA), and cognitive tasks of perception and seriation. Significant Pearson product-moment coefficients of .36 to .57 were obtained between the seriation tasks and all skills except the PMA Verbal subtest and the kinetic cognitive task. Seriation, static mental imagery, and perception were significantly related to the total PMA battery and to the Boehm Concept test.

VANCE, HUBERT "BOONEY"; GAYNOR, PATRICIA; & COLEMAN, MARGARET. Analysis of cognitive abilities for learning disabled children. *Psychology in the Schools*, October 1976, 13, 447-483.

Analyzes WISC-R subtest pattern scores of 58 learning disabled children (42 boys and 16 girls) ranging in age from 6 years to 15 years, 10 months. The subjects were from rural North Carolina and had all been classified as learning disabled. The variation in subtest scores was analyzed by a 1×10 analysis of variance with repeated measures on the single factor. Differences between individual subtest means were analyzed by the *Newman-Keuls* test for simple effects. The evidence indicates that the low subtest scores on Arithmetic, Coding and Information were characteristic of this group. The study did not support the Verbal-Performance discrepancies as useful in the diagnosis of learning disabilities.

MOSELY, DAVID. An evaluation of verbal, spatial and numerical sequencing scores in the WISC and WISC-R, with special reference to children with reading difficulties. *Journal of Research in Reading*, February 1980, 3, 38-51.

Reviews the studies related to the factor structure of the WISC and WISC-R and the studies relating to typical patterns of strengths and weaknesses in children with reading difficulties. The author grouped subtests, and tables were presented that give percentile points for each of the three subgroups of tests: Verbal, V-Similarities, Vocabulary, and Comprehension; Spatial, S-Picture Com-

pletion, Block Design, and Object Assembly; and Numerical Sequencing, N-Arithmetic, Digit Span, and Coding. These tables show the expected proportion of children with a given difference between subtest scores. This analysis was then applied to two separate groups of disabled readers. Both groups had reading quotients below 80. One group consisted of 87 boys of junior school age with WISC IQs in the 85-115 range. The second group consisted of 26 boys ranging in age from 6 to 14 and in IQ from 69 to 115. In both groups, approximately half had significant weaknesses in one or more of the N group of subtests, but no discrepancies in V or S function were found. The practical significance of those findings was discussed.

SAWYER, C. E.; LORD, B.; & BROWN, B. J. Laterality and intelligence in relation to reading ability: a replication. *Educational Review*, February 1979, 31, 45-50.

Examines the interaction between laterality and intelligence in relation to reading ability. Subjects were taken from two suburban schools near Birmingham, England, and included 71 junior school boys and girls (average age 9-9) and 70 comprehensive school boys and girls (average age 13-9). Subjects were divided into more and less able readers on the basis of scores on the Burt (re-arranged), *Word Reading Test*. They were also divided on the basis of laterality: right preference and non-right preference. Eye, hand, and foot laterality effect between laterality and intelligence in relation to reading ability was noted. A similar trend was found in the results for the junior age children, although this was not found to be statistically significant.

NELSON, HAZEL E., & O'CONNELL, ANNE. Dementia: the estimation of pre-morbid intelligence levels using the new adult reading test. *Cortex*, June 1978, 14, 234-244.

Assesses the usefulness of a word reading test as an indicator of the pre-morbid level of intellectual functioning of the demented patient. Forty hospitalized patients who showed evidence of bilateral cortical atrophy and 120 inpatients at the same hospital who were used in the standardization of the New Adult Reading Test (NART) and had extracerebral disorders were used as subjects in the study. Assessment of verbal, performance, and full scale IQs were obtained for each subject by prorating from the Arithmetic, Similarities, Digit Span, Vocabulary, Picture Completion, Block Design, and Picture Arrangement subtests of the *WAIS*. The *Schonell Graded Word Reading Test* and the NART were administered also. In addition a set of 20 long but regular words was also given. For each subject, *WAIS* IQs were predicted from results on the *Schonell* and the NART by means of regression analysis. The results indicated that the NART is superior to the *Schonell* in enabling higher and more accurate levels of intelligence to be predicted.

BRITTON, BRUCE K.; HOLDREDGE, TIMOTHY S.; WESTBROOK, ROBERT D.; & CURRY, CHERYL. Using cognitive capacity in reading text. *Perceptual and Motor Skills*, April 1979, 48, 395-400.

Uses a secondary task of responding to occasional clicks occurring during the primary task of reading in order to measure the capacity demands of the primary task. Reaction time to clicks presented during a reading task and in an equivalent condition when they were not reading was investigated for 24 undergraduates. Results indicated that reaction times were slower when subjects were reading, suggesting that the reading task was using capacity even though it was highly practiced.

BRITTON, BRUCE K.; WESTBROOK, ROBERT D.; & HOLDREDGE, TIMOTHY S. Reading and cognitive capacity usage: effects of text difficulty. *Journal of Experimental Psychology: Human Learning and Memory*, November 1978, 4, 582-591.

Examines the demands reading places upon cognitive capacity by using the secondary-task technique. In three experiments, undergraduates were asked to read passages varying in difficulty from easy to very difficult. While reading, clicks were presented, and upon hearing them, the subject pressed a reaction time key. The clicking was the secondary task technique. It has been postulated that the slower the reaction time to the secondary task, the greater the cognitive capacity being used in the primary task. In Experiment 1, subjects (N=24) read ten easy and ten difficult passages. Reaction times to clicks were slower on easy stories than on difficult stories. These findings were replicated in the next two experiments using different subjects and stories. It was also found that the product of reading and reaction times for difficult passages was greater than for easy passages. A cognitive explanation of these findings was offered.

LOPER, ANN B., & HALLAHAN, DANIEL P. A comparison of different statistical procedures for determining the relationship between cognitive tempo and reading achievement. *The Journal of General Psychology*, January 1980, 102, 89-97.

Evaluates the relationship between reading achievement scores and performance on the *Matching Familiar Figures Test* (MFF), designed to assess cognitive tempo. Subjects consisted of 37 second-grade children who were given the MFF, the *Wide Range Achievement Test* (WRAT), and the *Kuhlman-Anderson Test* for intelligence. In addition, a teacher estimate of a child's reading grade level was obtained. Teacher ratings and WRAT scores correlated about the same with MFF scores. The coefficients ranged from $-.34$ to $.35$ for WRAT scores, and from $-.38$ to $.39$ for teacher ratings.

BELKA, DAVID E., & WILLIAMS, HARRIET G. Prediction of later cognitive behavior from early school perceptual-motor, perceptual, and cognitive performances. *Perceptual and Motor Skills*, August 1979, 49, 131-141.

Investigates the ability of certain perceptual, perceptual-motor and cognitive tests to predict cognitive ability one year later. Subjects were selected by stratified random sampling from three schools and included 61 pre-kindergarteners, 63 kindergarteners and 65 first graders. The perceptual-motor tests were 1) *Cashin's Motor Test*, 2) *Shape-O-Ball test*, 3) the *Bender-Gestalt Test* and 4) the Eye-Motor Coordination subtest of the *Frostig Developmental Test of Visual Perceptions*. Perception was assessed by various subtests of the *Illinois Test of Psycholinguistic Abilities*, the *Wepman Auditory Discrimination Test*, and the Position-in Space subtests of the *Frostig*. Cognitive abilities were determined by 1) the *Primary Reading Profile* (PRP), Level I and the *California Short Form Test of Mental Maturity* for first grade subjects, 2) the *Metropolitan Readiness Tests* for kindergarteners and 3) the *Boehm Test of Basic Concepts* for pre-kindergarteners. One year later, the pre-kindergarteners were administered the Metropolitan, kindergarteners the PRP, Level I, and first graders the PRP, Level II. For pre-kindergarteners, the perceptual-motor and perceptual tests were the best prediction of later achievement, and the cognitive predictors did not improve the prediction. For kindergarteners and first graders, the cognitive predictors were the better predictors of later cognitive achievement.

IV-4 Modes of learning

DEREVENSKY, JEFFREY L. Modal preferences and strengths: implications for reading research. *Journal of Reading Behavior*, Spring 1978, 10, 7-23.

Gives an overview of the research findings dealing with modality preferences and strengths. The studies reviewed were categorized under: 1) visual and auditory modalities, 2) attempts to assess and identify group and individual modal-

ity preferences, and 3) attempts to match modal preference and reading instruction. Conclusions based on the research are then drawn and suggestions for areas in need of additional research are made.

KAMPWIRTH, THOMAS J., & BATES, MARION. Modality preference and teaching method: a review of the research. *Academic Therapy*, May 1980, 15, 597-605.

Discusses 22 studies which have investigated the modalities methods problem with children under ten years of age. The article concluded that there is little evidence supporting the efficacy of matching preferred modality to teaching approach.

GREDLER, GILBERT R. Diagnostic-prescriptive teaching: a review of recent research and implications for education. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977. Pp. 311-325.

Reviews the research literature on the relationship between modality functioning to the child's progress in reading. The review ends with a 15-point summary of the findings in the literature. The author lists as number one that the modality approach for diagnosis and remediation needs to be approached with caution. The problem with measuring modality preference and the need to view reading disability from a much broader basis than modality alone are also highlighted.

ENGLE, RANDALL W.; CLARK, DONOVAN D.; & CATHCART, JOHN S. The modality effect: is it a result of different strategies? *Journal of Verbal Learning and Verbal Behavior*, April 1980, 19, 226-239.

Presents the results of five experiments designed to test the theory that modality effects in immediate and delayed recall are partly a result of different levels of encoding of auditory and visual recency information. All subjects were introductory psychology students. Sample sizes for the experiments varied from 72 to 148. Stimuli for all experiments were lists of words. Four of the experiments manipulated knowledge of list length and mode of presentation and found no decrement in auditory superiority when the subject was ignorant as to which items were recency items. This appears to disconfirm, in the authors' view, any theory that modality effects found for recency items in immediate free recall are a consequence of different subject strategies. Requirements for a general theory of modality effects and echoic memory were discussed.

CLARK, ROBERT L. Media, mental imagery, and memory. *Educational Communication & Technology*, Winter 1978, 26, 355-363.

Designs a study to test the effects of media presentations of concrete-verbal and visual information and relates the findings to a model of information processing. Thirty-two undergraduates were used in the study. Subjects were given instructions for drawing geometric designs in five different treatments representing single and multiple channel media. These included: 1) a visual-only presentation; 2) printed instructions only; 3) auditory descriptions; 4) simultaneous auditory description with visual presentation; and 5) auditory instructions while showing the individual giving the instructions. Each subject received three designs in each treatment. After completing the design, subjects were asked how they remembered the designs that they did not see. All subjects indicated that they visualized it as it was described. Subjects were then tested for recognition of the designs. The auditory-visual presentation gave significantly higher recall scores than did all other treatments. The visual-only presentation ranked second. Subjects spent nearly 30% more time reading descriptions than listening to them. This finding supported the model's hypothesis of the interference of print with visualization.

LANG, R. J., & SOLMAN, R. T. Effect of pictures on learning to read common nouns. *British Journal of Educational Psychology*, 1979, 49 (Part 2), 138-149.

Argues that the reason pictures are not generally found to facilitate the word learning of young readers might be that children fail to attend to the word and focus their attention on the picture. Conducts three experiments to investigate this issue. Subjects for all three experiments were randomly drawn by sex from kindergarten populations in metropolitan government schools: 60, 70, and 64 for Experiments 1, 2 and 3, respectively. In Experiment 1, words were projected onto second, and third grade. Perceptual-motor ability was measured on the stabilometer (a measure of balance), the *Minnesota Manual Dexterity Test*, and a tapping test. picture presented one second after the word was presented. Experiment 2 was the same, except words and pictures were printed on cards instead of projected. Results of Experiments 1 and 2 yielded no significant differences between picture condition or between spacing. In Experiment 3, only words with related pictures were presented (by projection) in the same two spacing conditions. Experimental subjects received instructions which emphasized the fact that the picture was a visual representation of the word; controls did not receive this instruction. There was no significant spacing effect, but the experimental group scored significantly higher than the controls. It was concluded that pictures could facilitate word learning if a link is drawn between the picture and the word.

WALLER, ROBERT H. W. Four aspects of graphic communication: an introduction to this issue. *Instructional Science*, September 1979, 8, 213-222.

Raises questions concerning the appropriateness of the generalization of the electronic model (signals-down-wires) of information theory to graphic communication. Points up the need to consider the passive-active dimension of originator and user, direct-indirect relationships, the functions of purpose, and the differences between verbal language and pictorial communication. Suggests that information theorists and researchers fail to recognize their depersonalization of communication processes.

GUENTHER, R. KIM; KLATZKY, ROBERTA L.; & PUTNAM, WILLIAM. Commonalities and differences in semantic decisions about pictures and words. *Journal of Verbal Learning and Verbal Behavior*, February 1980, 19, 54-74.

Reports the nature and results of three related experiments treating the influence of semantic consistency between timed picture and print word stimuli presented intact or graphically degraded. Subjects were university undergraduates; N = 40, 48, and 14, respectively. Reaction recognition and classification time served as the criterion. General significance in findings indicates that pictures were classified faster than words but that words are named faster than pictures. However, negative responses to classification were slowed when stimulus and target were semantically related. Grid degrading had little effect, which suggests that word-picture reaction time differences may be explained by a visual short-term memory factor rather than perceptual processing.

TENNYSON, ROBERT D. Pictorial support and specific instructions as design variables for children's concept and rule learning. *Educational Communication & Technology*, Winter 1978, 26, 291-299.

Investigates whether the learning of concepts and rules by young children is facilitated by pictorial supports which supplement written materials and specific instruction in how to use the pictorials. Three strategies were used to assess the effect of pictorial supports in learning concepts and rules: 1) presenting pictorials depicting the relevant features of the text, 2) having pupils generate their own drawings, and 3) having pupils generate mental images corresponding to the relevant textual features. Learning was assessed at both the recall and concept-learning levels. For the higher-order learning situations, children were provided with specific

instructions on how to use adjunct pictures in the learning of concepts and rules. Participants were 69 third- and fourth-grade pupils. Two arithmetic tasks, each followed by a posttest, were presented. The tasks consisted of passages describing a rule. Reading material for all tasks was identical, with only the directions for the three pictorial-support conditions being different. The format followed was: general directions, pretraining program, pretest, learning task 1, posttest 1, learning task 2, and posttest 2. Posttest results indicated that performance was better when drawings were provided than when pupils generated their own drawings. Performance was poorest when pupils were directed to form mental images. Giving specific instructions on how to use visuals was not a necessary condition for recall but was helpful in acquiring concepts and rules.

EMMERICH, HELEN JONES, & ACKERMAN, BRIAN P. The effect of orienting activity on memory for pictures and words in children and adults. *Journal of Experimental Child Psychology*, December 1979, 28, 499-515.

Examines the effect of different encoding activities on memory. Sixty-four subjects from each of the second grade, fourth grade, and college adult populations participated. Subjects were presented with either a word or picture. Prior to presentation of each item, subjects were asked questions designed to orient them to the acoustic, schematic, or conceptual characteristics of the item, or were asked no questions at all (neutral condition). They were then tested with both pictures and words in a forced-choice recognition task. In the testing condition, each target item was paired with a distractor related to the target either acoustically, schematically, conceptually, or not at all. Data were analyzed for both number and latency of correct responses. Variations in task difficulty increased both errors and time needed to arrive at a correct solution. Response time decreased with age. Responses to pictures were faster than responses to words for elementary school children; responses to words and pictures were equal for adults. Variability in responses to pictures and words for the different orienting activities was found for elementary school children but was not particularly true for adults. Differences between cross-modal responses and the same-mode responses decreased with age. For grade five pupils, responses to acoustic distractors were slower than to the conceptual distractors; no differences appeared between responses to conceptual and schematic distractors, and both were slower than responses to neutral distractors. For grade two children, there were significant increases in response latencies between every condition from the neutral to the schematic to the acoustic to the conceptual distractor. The results indicated that deficits in the kinds of encoding operations performed are not responsible for developmental differences in memory performance, but suggest that young children differ from adults in terms of focused attention and direct access to semantic representations.

WINN, WILLIAM. The effect of block-word diagrams on the structuring of science concepts as a function of general ability. *Journal of Research in Science Teaching*, May 1980, 17, 201-211.

Examines the effectiveness of diagrams in science instruction. The 122 ninth-grade students involved were assigned at random to one of two treatments: text alone or text and block-word diagram. Fifteen concepts dealing with features of food chains were identified from a sample of ninth-grade science texts. A block-word diagram was made to show the relationships between the concepts and was accompanied by a text of approximately 500 words. Two forms of a 24-item multiple-choice test and two forms of a word association test were developed, and alternate forms were administered as pre- and posttests. Results indicated that high ability subjects were helped by the diagram but not low ability students. As learning took place, subjects tended to organize concepts in ways that corresponded more closely to the structure of the content. However, there was not a significant difference between treatments for comprehension.

SEWELL, EDWARD H., JR., & MOORE, ROY L. Cartoon embellishments in informative presentations. *Educational Communication & Technology*, Spring 1980, 28, 39-46.

Studies the effects of cartoon embellishments used with an informative presentation on the comprehension and evaluation of information presented in combinations of the print, audio, and visual channels. Subjects were 150 undergraduate volunteers. Materials used were 1) a basic text, 2) an audio recording of the text, 3) cartoon embellishments, and 4) slides of the cartoon embellishments. Material dealt with the use of the library. Subjects were randomly assigned to one of five treatments: printed text only, cartoon text, audiovisual, audio only, and visual only (cartoon embellishments alone). A 25-item multiple-choice test was used to assess comprehension, and two student evaluation measures were also obtained, one for enjoyment and one for helpfulness of the material. Differences between printed text, cartoon-embellished printed text, and audiovisual presentation on the comprehension assessment were not significant. The printed text and cartoon text means were significantly greater than the means for the audio and visual presentations, and the means for the audiovisual and audio presentations were significantly greater than the mean for the visual only presentation. For the helpfulness measure, means of the other four groups were significantly greater than the visual only presentation. The cartoon-embellished presentation was perceived as more enjoyable than any other.

WAGER, WALTER. A theoretical framework for studying educational media: a pilot study. *Educational Communication & Technology*, Spring 1980, 28, 19-24.

Describes a pilot study that attempts to investigate 1) whether different media are equally effective for a given learning task, and 2) whether given instructional materials are equally effective for different types of learning outcomes. Participants were 171 graduate students who were presented with text, film, and live demonstration in learning about cardiopulmonary resuscitation. Each subject was assigned randomly to one of the three treatments and was given a 28-item multiple-choice test and a simulator performance test following the program. Types of medium used appeared to make no significant difference in either the multiple-choice test or the motor skill learning task performance.

BAGGETT, PATRICIA. Structurally equivalent stories in movie and text and the effect of the medium on recall. *Journal of Verbal Learning and Verbal Behavior*, June 1979, 18, 333-356.

Discusses the results of five related experiments utilizing introductory psychology class students as subjects (N ranged from 11 to 80) to compare the influence of structurally equivalent stories presented by movie or print text upon making immediate or seven-day delayed judgments of a restricted nature about episodes and their components of exposition, complication, and resolution. Enabling investigation involved the identification of story episodes by listening to audio taped and/or silent film versions of the story. Included in the findings are 1) that stories told in a text and in a movie without words can be constructed so that people see them as having equivalent episodic structure, and 2) that statements of structure in recall protocols of people who study the two story versions are very similar.

RILEY, JAMES D., & DYER, JAMES. The effects of notetaking while reading or listening. *Reading World*, October 1979, 19, 51-56.

Investigates the effect of mode of presentation and notetaking on the recall of information over a 2000 word social science passage of 6.9 level readability. Ss were 52 college undergraduates assigned randomly to four treatment groups: listening to tape while taking notes, listening only, reading while note-

taking, and reading only. Total time was equated. The criterion measure consisted of 30 items testing equal numbers of facts and ideas. Significant differences were obtained for the two reading conditions but no difference obtained for notetaking.

GARDINER, JOHN M., & GREGG, VERNON H. When auditory memory is not over-written. *Journal of Verbal Learning and Verbal Behavior*, December 1979, 18, 705-719.

Designs a series of five experiments to explore the effect of auditory as opposed to visual presentation in a free recall paradigm in which each list word was preceded and followed by a period of oral distractor activity. In the first experiment, 36 paid undergraduates free-recalled lists in which each word presentation was preceded and followed by a period of 18 seconds of counting backward aloud by threes. Each subject received eight lists, four of which were presented visually and four, auditorily. A recency effect was more pronounced for auditory than for visual lists. Auditory superiority was confined to words in the final serial position. The additional experiments were designed to test the generality of the findings in Experiment 1. The effect was found to be consistent.

ROLLINS, HOWARD A., JR., & HENDRICKS, ROBERT. Processing of words presented simultaneously to eye and ear. *Journal of Experimental Psychology: Human Perception and Performance*, February 1980, 6, 99-109.

Examines, in three experiments, the simultaneous processing of auditorily and visually presented messages. The 16 subjects in Experiment 1 and the 2 different groups of 12 subjects in Experiments 2 and 3 were right-handed undergraduates. Subjects searched lists of words for a target word while processing auditorily presented information. Across conditions, subjects searched for a) target words in a list of words presented auditorily, b) the same target words in lists presented visually, c) a member of a taxonomic category in a visually presented list, and 4) a rhyme in a list of words presented visually. The level of processing of a simultaneous auditory message varied across experiments. In Experiment 1, subjects shadowed lists of digits. In Experiment 2, subjects reported the antonym of each word in a list. In Experiment 3, subjects named the taxonomic category of each word in a list. In all three experiments, subjects had high detection rates for target words presented auditorily and for rhyme targets. The findings suggested that processing the semantic properties, but not the acoustic properties, of words presented to the visual modality is independent of simultaneous processing in the auditory modality.

PAYNE, M. CARR, JR.; DAVENPORT, RICHARD K.; DOMANGUE, JAMES C.; & SOROKA, RICHARD D. Reading comprehension and perception of sequentially organized patterns: intramodal and cross-modal comparisons. *Journal of Learning Disabilities*, January 1980, 13, 34-39.

Investigates the relationship between the ability to make same or difference judgments of pairs of Morse Code-like patterns presented intramodally or cross-modally and reading comprehension scores. Subjects were 21 grade three, 54 grade four, 42 grade five, and 40 grade six pupils who were assigned to groups on the basis of scores on the Vocabulary and Reading Comprehension tests of the *Iowa Tests of Basic Skills*. At each grade level, a group of poor readers (PR) with a Vocabulary score at least one grade level higher than the Comprehension score was selected. Each PR reader was then matched with a normal reader (NR-V) on the basis of sex, age, and Vocabulary score. In addition each PR at grades five and six was matched for Comprehension with a group of children who were about two years younger (NR-C). Subjects were presented intramodally and cross-modally with two sequential stimulus patterns, one after the other, in a light pattern, a pure tone pattern, or by vibrations of a plastic disc. They were to determine whether the

patterns were the same or different. Performance of PR children was poorer than NR-V children but better than NR-C children. Performance improved as a function of grade level. Performance when the first pattern was auditory was better than when it was visual or tactual. Accuracy in the intramodal conditions was better than in the cross-modal conditions. Any pattern in which the first pattern was auditory discriminated between the PR group and the NR-V group. The authors proposed that a deficit in auditory memory rather than cross-modal perception appears to be a factor in poor reading comprehension.

KEIL, FRANK. Development of the ability to perceive ambiguities: evidence for the task specificity of a linguistic skill. *Journal of Psycholinguistic Research*, May 1980, 9, 219-230.

Compares the ability to detect linguistic ambiguities with the ability to perceive pictorial ambiguities in children ages 5 to 14. Both structural and symbolic ambiguities were studied. Subjects were 18 children each in grades one, three, five, and eight. They were presented with 48 sentences and 24 pictures, half with structural ambiguities and half with symbolic ambiguities. Subjects were told that they would be given sentences and pictures each with two meanings, and they were to determine what the two meanings were. Sentences were presented to children on a tape. Correlation coefficients were calculated between the various types of ambiguities for each age. The only significant coefficients were between the two sentence types; no picture-sentence coefficients were significant. Symbolic ambiguities in both modes were easier to perceive than structural ambiguities. Correct performance on symbolic ambiguities also appeared at an earlier age than did performance on structural ambiguities. The author concluded that skill in perceiving linguistic ambiguities is not related to skill in perceiving pictorial ambiguities.

RICHARDSON, ELLIS; DiBENEDETTO, BARBARA; CHRIST, ADOLPH; & PRESS, MARK. Relationship of auditory and visual skills to reading retardation. *Journal of Learning Disabilities*, February 1980, 13, 77-82.

Correlates performance on six measures of visual and auditory perception with reading performance. The subjects tested were 77 Brooklyn children in grades two to six whose names had been submitted to the Learning Center at Downstate Medical Center for a special reading project. There were 46 boys and 31 girls with an average age of 10-0 and an average WISC IQ of 82. All came from families with income below \$12,000. There were 33 black and 44 white children. Five subtests of the ITPA (three auditory subtests and two visual) and the Beery *Developmental Test of Visual-Motor Integration* were administered. Specific sight-word and phonic reading skills and oral reading were measured by: the *Roswell-Chall Diagnostic Reading Test*, the *Englemann-Becker Corrective Reading Placement Test*, the *Reading Recognition Test of the Peabody Individual Achievement Test*, *Boder's Informal Word Recognition Inventory*, and the *Gilmore Oral Reading Test*. Partial correlation coefficients (controlling for age and IQ) between auditory perception and reading ranged from .00 to .51, and between visual perception and reading, from -.20 to .29. It was concluded that the findings did not support the hypothesis that children can be sorted successfully into auditory and visual learner categories with instruments used.

HUSAK, WILLIAM S., & MAGILL, RICHARD A. Correlations among perceptual-motor ability, self-concept and reading achievement in early elementary grades. *Perceptual and Motor Skills*, April 1979, 48, 447-450.

Reports the correlation coefficients among three tests of perceptual-motor ability, reading achievement, and self-concept for 105 boys and 108 girls in first, second, and third grade. Perceptual-motor ability was measured on the stabilometer

(a measure of balance), the *Minnesota Manual Dexterity Test*, and a tapping test. Reading was measured by the *Science Research Associates Assessment Survey*. Self-concept was measured by the *Primary Self-Concept Inventory*. All coefficients between reading and the three perceptual-motor tests were non-significant except one, a coefficient of .27 between reading and tapping for all three grades. No other coefficients among the three tests were significant.

FUCHS, DOUGLAS. Reading and perceptual-motor performance: can we strengthen them simultaneously? *The Journal of Special Education*, Fall 1979, 13, 265-273.

Evaluates the effects of remedial reading instruction on perceptual motor performance. The 119 subjects were reading at least two years below grade level. The sample consisted of grade 4, 5, and 6 students; 51% were white, 35% American Indians, 13% black, and 1% Hispanic or Asian American. The 73 experimentals received five months of small group remedial reading for one-half hour or one hour a day. No perceptual training was given during this instruction. The remaining 46 subjects were controls who received no special remedial reading instruction. The *Gates-MacGinitie Reading Tests*, Comprehension, and the long form of the *Beery-Buktenica Developmental Test of Visual-Motor Integration* were administered as pre- and posttests. A comparison of pre- and posttreatment functioning on perceptual motor and reading measures revealed that: a) the experimentals' gain on the perceptual-motor instrument was significantly greater than that of the controls; and b) while both treatment groups' reading skill appeared to improve substantially, the experimentals' gain was not significantly greater than the controls'. Thus, the experimentals' higher functioning on the perceptual-motor test cannot readily be attributed to reading achievement. The findings were interpreted to indicate that performance on a perceptual-motor measure can be positively affected by a reading instructional program that does not explicitly employ perceptual-motor training.

NELSON, DOUGLAS L., & MCEVOY, CATHY L. Effects of retention interval modality on sensory and semantic trace information. *Memory and Cognition*, July 1979, 7, 257-262.

Compares the effectiveness of sensory and semantic cues to words on an immediate test and a test after a filled delay when stimuli were presented visually or auditorily. The stimuli were 24 pairs of words, 12 were strongly associated and 12 were weakly associated. Undergraduates viewed or heard the target words and then (or after a 15 minute delay) recalled the words when shown or told the cue. Word ending cues were just as effective as taxonomic cues on the immediate test. On the delayed test, however, ending cues were less effective. This result suggested that sensory information encoded about a word decays at a faster rate than semantic information. Second, although modality had no observable influence on the taxonomic cues, word ending cues were more effective when all items were shown visually than when they were presented auditorily. The authors concluded that the findings indicated that the visual features of words are encoded at study, and that this information can be assessed during test if it is recapitulated by the retrieval cue shortly after acquisition.

CAMPBELL, DOROTHY. Mode of response to visual stimuli and learning disabled and normal pupils' learning new words (logographs). *Journal of Research and Development in Education*, 9, Monograph 1976, 21.

Compares the effects of two response modes (recognition and reproduction) on the learning of normal readers and learning disabled pupils. Stimuli were 15 high frequency words paired visually with logographs. Subjects were exposed to the words and logographs over a series of four study-test trials. On study trials, subjects viewed both the word and the logograph. On test trials, subjects either wrote (reproduction) or selected from several logographs (recognition) the one that

matched the word pronounced by the experimenter. Normal readers gave significantly more correct responses than learning disabled subjects in both conditions. There was no interaction between subjects and treatments.

CAMPBELL, DOROTHY. Mode of response to auditory-visual stimuli and learning disabled and normal pupils' learning new words (logographs). *Journal of Research and Development in Education*, 9, Monograph 1976.

Compares the effects of two response modes (recognition and reproduction) on the learning of normal readers and learning disabled pupils. Stimuli were 15 high frequency words paired visually with logographs. Subjects were exposed to the words and logographs over a series of four study-test trials. On study trials, the examiner pronounced the word orally as students studied the written form paired visually with the logograph. On test trials, subjects either wrote (reproduction) or selected from several logographs (recognition) the one that matched the word pronounced by the experimenter. Normal readers gave significantly more correct responses than learning disabled subjects in both conditions. There was no interaction between subjects and treatments.

CAMPBELL, DOROTHY. Mode of response to auditory-visual stimuli and learning disabled and normal pupils' learning new words with phoneme-grapheme equivalence. *Journal of Research and Development in Education*, 9, Monograph 1976, 27-28.

Compares the effects of response modes (recognition and reproduction) and letter-by-letter pronunciation of words on the learning of learning disabled and normal reading students. Stimuli were ten familiar English words paired with new forms of the words written in the Armenian alphabet. A series of four study-test trials was administered. On study trials, the experimenter pronounced the words orally and spelled out the words letter-by-letter as subjects viewed both the English and Armenian words. On test trials, subjects either wrote (reproduction) or selected from several Armenian forms (recognition) the one that matched the word pronounced by the examiner. There were significant differences between groups and between response modes, but there were no group $\times$ response modes interactions.

CAMPBELL, DOROTHY. Mode of response to tactual stimuli and learning disabled and normal pupils' learning new words with phoneme-grapheme equivalence. *Journal of Research and Development in Education*, 9, Monograph 1976, 29.

Compares the effects of response modes (recognition and reproduction) and letter tracing on the learning ability of learning disabled and normal reading students. The stimuli were ten high frequency English words paired with new forms of the words written in the Armenian alphabet. A series of four study-test trials was presented. On study trials, the English-Armenian pairs were presented visually. As the experimenter presented the words orally, pupils traced each letter with a green felt tip pen. On test trials, Ss either wrote (reproduction) or selected from several Armenian forms (recognition), the Armenian form that matched the word pronounced by the examiner. Although there were treatment (response mode) differences, there were no significant differences between learning disabled and normal students on number of Armenian forms correctly recognized. The data were interpreted to support Fernald's theory.

LITTLE, DONALD. Clue format and identifying word meanings in context by normal and learning disabled pupils. *Journal of Research and Development in Education*, 9, Monograph 1976, 82-83.

Investigates the influence of clue format (i.e., mode of stimulus presentation) upon the recall of word meanings through context analysis. The treatments were two types of clue presentations of word meanings in context: 1) sentences

containing paralog approximating English meaningfulness and 2) the same sentences except that a standard length blank was inserted for the unknown word. To groups of normal readers and learning disabled students, the experimenter read each of the eight sentences and the five possible choices to replace the line or paralog. Type of clue format did not significantly affect learning.

SHANKWEILER, DONALD; LIBERMAN, ISABELLE Y.; MARK, LEONARD S.; FOWLER, CAROL A.; & FISCHER, F. WILLIAM. The speech code and learning to read. *Journal of Experimental Psychology: Human Learning and Memory*, November 1979, 5, 531-545.

Investigates whether the differences between the performance of good and poor second grade readers on a serial recall task is affected by the phonetic characteristics of the items. Three experiments are reported. Subjects were identified as superior, marginal, or poor readers on the basis of teacher judgment and scores on the *Wide Range Achievement Test* (WRAT). The 17 superior readers had a mean grade equivalent on the WRAT of 4.9. The mean grade equivalent WRAT scores for the 16 marginal readers and the 13 poor readers were 2.5 and 2.0, respectively. In the first experiment, subjects were presented with 16 strings of five uppercase letter strings. Eight of the letter strings were composed of rhyming consonants, and 8 of nonrhyming consonants. Children saw the letter strings displayed and then were asked to write them in the order shown. The second experiment utilized successive rather than simultaneous display of letters; the third experiment utilized an auditory version of the serial recall task. Superior readers made fewer errors than the other groups on nonrhyming letter strings. Recall performance of marginal readers was less penalized by rhyming letters than that of superior readers. Poor readers showed an even weaker effect of confusability. These findings occurred for both visual and auditory presentations. The authors state that their results support the hypothesis that good and poor readers differ in their use of phonetic coding in working memory and that individual variation in coding efficiency may be a relevant factor in learning to read.

WENTLAND, THOMAS J. ITPA interchannel difference. *Perceptual and Motor Skills*, June 1979, 48, 699-702.

Reanalyzes the norming data for the Illinois Test of Psycholinguistic Abilities (ITPA) in order to obtain the standard error of measurement and the standard error of measurement difference for the five subtests comprising the auditory-verbal channel and the five subtests comprising the visual-motor channel. The original norming sample consisted of 962 children ranging in age from 2-7 to 10-1 and was drawn from English-speaking families in four midwestern communities. There were equal numbers of boys and girls at each age level. Only 4% of the sample was black. Besides mean scores, standard deviations, and reliability coefficients for each channel, the data analysis yielded standard errors of measurement for the auditory channel (1.24) and the visual channel (1.40). The standard error of the difference was 1.87.

IV-5 Experiments in learning

SHIMMERLIK, SUSAN M. Organization theory and memory for prose: a review of the literature. *Review of Educational Research*, Winter 1978, 48, 103-120.

Reviews recent developments in organization theory and notes how it has added to the understanding of processes underlying memory for meaningful material. The author concluded that principles which influence memory for discrete words can influence the learning of prose.

YEKOVICH, FRANK R., & MANELIS, LEON. Accessing integrated and nonintegrated propositional structures in memory. *Memory and Cognition*, March 1980, 8, 133-140.

Reports the results of two memory experiments in which subjects read sentences wherein the underlying structures were integrated or nonintegrated. Subjects in both experiments were undergraduate students who received course credit for participating. Three sentence conditions were presented: integrated, nonintegrated, and sentences containing extra arguments. Testing for recall of sentences was either delayed or immediate and recall was either free or cued. In addition, sentence length was varied. Integrated sentences were those in which the same concept was repeated across propositions; nonintegrated sentences had explicit repeated arguments. Integrated sentences were recalled better than nonintegrated ones under conditions of immediate recall or delayed cued recall. Nonintegrated sentences were recalled better under the delayed free recall condition. The second experiment extended and confirmed the results of the first. Findings were interpreted according to theory dealing with the lag effect in list learning.

KULHAVY, RAYMOND W. Feedback in written instruction. *Review of Educational Research*, Spring 1977, 47, 211-232.

Integrates the research done on feedback processes and relates the findings to the design of instructional materials.

JOHNSON, RONALD E., & SCHEIDT, BARBARA J. Organizational encodings in the serial learning of prose. *Journal of Verbal Learning and Verbal Behavior*, October 1977, 16, 575-588.

Presents findings from a series of three experiments designed to examine the relationship of organizational encodings in the serial learning of prose. Subjects in all studies were undergraduates. Following the partial serial learning of a prose passage, learners attempted free recall and backward anticipation. Results suggested that learners associatively organized individual prose subunits into subjective sequences. Associative organization of the subsequences was related to the structural importance of the prose units within the subsequence.

BOWER, GORDON H., & GILLIGAN, STEPHEN G. Remembering information related to one's self. *Journal of Research in Personality*, December 1979, 13, 420-432.

Reports the results of two experiments designed to test the effect of the self-referencing process on memory. Experiment one utilized 24 college students in three different orientation tasks for recall of adjective noun phrases: Self-reference (describes you?), Semantic (a social interaction?) and Superficial (two or more e's?). Results of the first experiment indicated that self-referencing enhanced memory significantly. The second experiment utilized 40 students in a related investigation which tested the effects of self-referencing on the recall of trait adjectives. Results indicated that recall is poorer when the trait items are related to a poorly differentiated cognitive structure.

BOL'SHUNOV, YA V. Recall of semantically nonequivalent parts of a coherent text. *Soviet Psychology*, Fall 1977, 16, 70-80.

Conducts a study to determine if there is a relationship between the importance of the semantic units of a text and the frequency of their recall. Fifty-three students were asked to study and find the most essential semantic items in each of two passages. Each passage was 275 words long, one was serious literature, and one was popular science. Both had the same number of semantic units. The

semantic significance of every semantic unit was determined by the percentage of students identifying a given unit as important. In the literary text, semantic units ranked among the most important varied in frequency from 3.8% to 100%, and for the popular science text, from 11.3% to 90.6%. Groups of 20-25 subjects were read the passages and tested in one of two ways: some subjects were told to produce complete recall, and some only to remember the basic content. The percentage of subjects reporting each semantic unit was calculated for the complete retelling and the basic content conditions. These figures were then correlated with the semantic significance as rated by the 53 students. For the literary text, the correlation coefficients were .65 and .77 for total retelling and basic content recall, respectively. For the popular science article, the coefficients were .34 and .51. All were statistically significant. The author concludes that the parts of logically coherent text that are best recalled are those considered to carry the most semantic information. Further, the author found that the items recalled but not ranked important semantically were often emotive or graphically vivid details that served to concretize the basic content. The results were discussed in relation to theories of memory.

SCHULTZ, E. EUGENE, JR., & KAMIL, MICHAEL L. How integrated is memory for semantically related sentences? *The Journal of General Psychology*, July 1979, 101, 13-21.

Gives subjects background information and/or thematically blocked sentence presentation to determine the effect on free recall of the sentences. Participants were 80 undergraduates in an introductory psychology course. Half of the subjects were presented with background stories related to themes in 24 sentences. The stories were to be memorized and then written from memory. Subjects were then given the sentences and told that they would be tested for retention later. Sentences were presented on tape, a question was asked following each sentence, and then some subjects were told to recall the sentences. Other subjects received the sentences a second time. Half of the subjects did not receive the stories, but only heard the sentences and recalled them. Recall protocols were scored for the number of old, new, and noncases recalled. Background stories or blocked presentations increased recall of old sentences when two presentations were given. When only one presentation was given, blocked presentations also increased the number of new sentences generated. Measures of linguistic integration were not sensitive to the stories variable. Results suggested that semantically related sentences require background schemas or topical organization to facilitate integration of representations, and also that topical clustering is an appropriate measure of interconnectedness of representations.

DONALDSON, WAYNE, & BASS, MICHAEL. Relational information and memory for problem solutions. *Journal of Verbal Learning and Verbal Behavior*, February 1980, 19, 26-35.

Presents results of three experiments examining the ability of adult subjects to retain related word pairs when the second word in each pair required some active construction on the subject's part (such as filling in a letter). In Experiment I, ten of the 20 subjects enrolled in an introductory psychology course were better able to recall more constructed than read words. In order to eliminate the effects of arousal on attention that the construction task required, the missing letter in Experiment II was always an "E." Even though the construction effect was reduced under these conditions, 14 of the 20 subjects recalled more constructed words. In Experiment III, subjects continued to construct or read the second word, but in this condition, half the subjects ($N = 20$) looked back in order to rate the pair on its

semantic relationship while half the subjects were assigned an orthographic condition and were required to look back in order to record the number of times the letter just written occurred in the first word of the pair. Construct processes again produced significantly superior recall; semantic looking back was superior to orthographic; and the interaction between those two factors was significant.

KANE, JANET HIDDE, & ANDERSON, RICHARD C. Depth of processing and interference effects in the learning and remembering of sentences. *Journal of Educational Psychology*, August 1978, 70, 626-635.

Reports on two experiments comparing learning response for subjects who completed last words of sentences with those who read whole sentences. In the first study, 96 undergraduates were randomly assigned to the read or completion groups dealing with determined, undetermined, or mixed possibilities for last word completion accuracy, and first or second list position. Completion subjects performed significantly better on the first list but not the second. The second study randomly assigned 44 undergraduate subjects to conditions of reading or completing determined and undetermined form sentences presented on a memory drum. Subjects were tested immediately for recall and one week delay in recall and recognition. Significant main effects were obtained in favor of sentence completion on immediate and delayed recall.

SPIRO, RAND J. Accommodative reconstruction in prose recall. *Journal of Verbal Learning and Verbal Behavior*, February 1980, 19, 84-95.

Investigates the extent to which prose recall is accommodated to conform with current cognitive states in a complex design in which ten undergraduate subjects were assigned randomly to one of 36 treatment conditions. All subjects read a prose story of three paragraphs and were assigned to a two day, three week, or six week written recall session. Other experimental variables included set (cognitive evaluation or memory), story form, and subsequent information regarding story outcome. Accommodative error occurred significantly more frequently in the cognitive evaluative-contradictory subsequent informative condition and such error increased with delay in recall.

MYNATT, BARBEE T., & SMITH, KIRK H. Processing of text containing artificial inclusion relations. *Memory & Cognition*, September 1979, 7, 390-400.

Describes the nature and results of four experiments in which college students ($N = 7$ to 52) read various text forms (nonsense syllables, sentences, or paragraphs) and made varied forms of responses (true-false, computer reconstruction of text order, and classification) to test the hypothesis that artificial inclusion relations influence the likelihood that appropriate schema will be used to understand set inclusions. Group data did not support this hypothesis. The variable studied affected the subjects across a small number of different, but highly consistent, patterns of responding. Subjects tried to fit material in artificial texts into already established systems of representation.

SCHUSTACK, MIRIAM W., & ANDERSON, JOHN R. Effects of analogy to prior knowledge on memory for new information. *Journal of Verbal Learning and Verbal Behavior*, October 1979, 18, 565-583.

Examines the facilitating effects of cues to prior knowledge about specific famous individuals on the acquisition of new knowledge. In the first of two experiments, 54 undergraduates studied 42 short (four sentence) biographies of fictional characters analogous to famous people, then were tested over what they had read. Stories were constructed so that 28 of them presented a strong resemblance to the

life of a famous individual while 14 did not. Subjects performed five tasks: Study with practice materials, recognition test for practice materials, Study and Test with main materials, and a final recall task. The best recognition occurred when the analogous famous person was identified at both Study and Test phases. The second experiment examined whether simple matching between Study and Test contexts accounted for the results of the first experiment. However, the findings indicated that this was not accurate. A famous person's name was beneficial only when facts in the biography were true of that individual. The authors concluded that providing subjects with a good analogy to prior knowledge will both improve memory for studied material and bias subjects toward false recognition of statements consistent with prior knowledge. Implications for schema and depth-of-processing theories of memory are discussed.

KINTSCH, WALTER; MANDEL, THEODORE S.; & KOZMINSKY, ELY. Summarizing scrambled stories. *Memory and Cognition*, September 1977, 5, 547-552.

Investigates through three experiments the influence of reader schema upon reading stories in usual and scrambled paragraph form. University undergraduates (N = 73; 40; and 32, respectively) read 1400 word stories and wrote 60-80 word summaries on a computer controlled typewriter or typed the resulting summaries. Other experimental conditions included unrestricted or limited time, degree of story structure, and use of an adjunct outline aid in writing the summary. Scrambled paragraph studies took significantly longer to read. As judged by student subjects, the scrambled paragraph condition and the degree of story structure conditions had little significant influence upon the quality of summary produced.

BLACK, JOHN B., & BOWER, GORDON H. Episodes as chunks in narrative memory. *Journal of Verbal Learning and Verbal Behavior*, June 1979, 18, 309-318.

Reports on three experiments in which college undergraduates (N = 32, 12, and 32) read treated story episodes about characters dealing with everyday life tasks. Pilot study results discouraged research attempts to separate setting and plot constituents. The nature and results of each experiment are presented in some detail. General findings suggest that target points presented in longer episode descriptions were recalled better than those in short episodes, that recall of superordinate actions is improved notably with the number of subordinate actions in the same episode but little influenced by the complexity of other episodes and that episode outcomes figure high in recall.

GARNER, RUTH. Verbalization of schemata over time: investigation of changes for fifth graders and adults. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 86-90.

Investigates the degree of change in students' schemata 1) when they are required to verbalize that schemata over time and 2) when they are presented information that does not conform to their schemata. Subjects were 42 fifth graders and 36 University of Maryland undergraduates who were divided into three groups and seen in two sittings. In sitting one, all subjects wrote their ideas (schemata about dinosaurs) in a stated format. In sitting two, two weeks later, one-third of the group was told to write (again) their ideas about dinosaurs. The second third was told to write their ideas again, but they were to write in response to the statement, "Dinosaurs are cold-blooded ancestors of today's reptiles." The third group wrote in response to "Dinosaurs are warm-blooded ancestors of today's birds." All subjects then read R. T. Bakker's article from *Scientific American*. The thesis of the article was that dinosaurs were warm-blooded ancestors of today's

birds. Then all subjects indicated whether they thought dinosaurs were warm or cold-blooded. Over 95% chose cold-blooded. Schemata did change from sitting one to sitting two; farther, the differences in the statements before writing suggested that individuals do alter verbalized schemata.

ANDERSON, RICHARD C.; SPIRO, RAND J.; & ANDERSON, MARK C. Schemata as scaffolding for the representation of information in connected discourse. *American Educational Research Journal*, Summer 1978, 15, 433-440.

Examines the hypothesis that information that is significant to the conceptual framework or schema of written text ought to be better learned and recalled than less significant information. As a preliminary to the experiment, 37 undergraduates were asked to describe the activities involved in dining at a fine restaurant. The results indicated that certain categories of food are served in certain orders. These 18 foods were then written into narratives about going to a fine restaurant and shopping at a supermarket. The order of mention of the 18 foods and beverages was the same in both narratives and the same as the norming data. Also, the characters in each story were the same (the people who dined together and the people who marketed together). Subjects, 75 other undergraduates, read the stories after being told to remember what they read for later testing. After reading, they were given the *Wide Range Vocabulary Test*. Following this, they were asked to recall as much of the story in order as possible. As predicted, foods from categories determined to be part of most people's restaurant schemata were better recalled by students who read the restaurant narratives. Also as predicted, students who received the restaurant narrative were more likely to recall the character to whom a food had been attributed. However, contrary to expectation, participants were equally likely to reproduce food order information whichever passage they had read. Information of the same significance in the context of either the restaurant or supermarket story was equally well recalled by the two groups.

TAYLOR, BARBARA M. Children's memory for expository text after reading. *Reading Research Quarterly*, 1980, 15(3), 399-411.

Compares the oral recall of 17 fourth-grade good readers, 17 poor sixth-grade readers, and 17 graduate students on a 225 word expository passage. The passage was written to sixth grade readability for the adults and good sixth readers and to fourth grade readability for the fourth grade good readers and the sixth grade poor readers. Recalls were taped immediately after reading and again after two days and assessed in terms of superordinate idea units, subordinate idea units, and use of text structure. Significant main effects were revealed for groups and time of recall, but not for idea unit level. Adults recalled more than any of the children's groups, and sixth-grade good readers recalled more than the other children's groups. Sixth-grade poor readers had better immediate recall than did good fourth-grade readers, but no differences were found between these two groups on delayed recall. Immediate recall did not differ between the two sixth-grade reader groups; only the delayed recall showed a difference. Better recall by good sixth-grade readers appeared to be related, in part, to their greater use of text structure in organizing recalls when compared to the other children.

ALLEN, JERRY. Word prompts and learning disabled and normal pupils' sentence recall and comprehension. *Journal of Research and Development in Education*, 9, Monograph 1976, 106-108.

Investigates the effects of word prompts on learning disabled and normal pupils' sentence recall. There were three treatments: word prompts, identical to the subject noun of the sentence, word prompts that were second order concepts sub-

suming the subject noun, and word prompts that were first order concepts subsuming the subject noun. A study-test procedure was used over four trials. On study trials, the examiner read the word prompt and the sentence. On test trials, the examiner read the prompts and subjects answered by stating the object noun of the sentence, stating the sentence verbatim or stating the essential meaning of the sentence. For all three types of responses, the normal readers scored significantly higher. The type of prompt significantly affected object noun and essential meaning responses, but not verbatim responses. Treatment 1 (same word) was superior in both these cases.

GLYNN, SHAWN M., & MUTH, K. DENISE. Text-learning capabilities of older adults. *Educational Gerontology: An International Quarterly*, 1979, 4, 253-269.

Surveys the research literature and critically compares the nature and findings of studies of text-learning strategies of older and younger adults. Limited recall performance of older adults argues for greater research effort in improving efficiency of text learning skills, particularly in attending to key ideas, organization of information, and integration of new knowledge with existing background of information.

GUTTENTAG, ROBERT E., & HAITH, MARSHALL M. Automatic processing as a function of age and reading ability. *Child Development*, September 1978, 49, 707-716.

Examines the development of automatic word processing in skilled and unskilled readers. Subjects were shown nine pictures of common nouns in six experimental conditions which varied in the degree of interference. In addition to the 1) picture alone condition, there were five experimental conditions in which superimposed on the pictures were 2) a meaningless non-letter character string, 3) a meaningless non-pronounceable letter string, 4) a meaningless pronounceable letter string, 5) a real extracategory word (not the name of any of the nine items), or 6) an intracategory word (the name of one of the other eight items). There were five groups of subjects, 12 per group: beginning first graders (second month), late first graders (ninth month), third graders who were poor readers, third graders who were good readers, and adults. The six sets of nine pictures were presented on a Kodak projector equipped with a tachistoscopic shutter. The measured variable was the stimulus response interval. Except for first graders, both extra- and intercategory words significantly interfered with the rate of recognizing the pictures. For all subjects except a subgroup of five early first graders (who were unable to read all the names of the pictures), letters also interfered. Only adults and third grade good readers were reliably affected by the pronounceability of the non-word letter strings. It was concluded that even children who are poor readers or have had as little as nine months reading instruction do automatically attach meaning to familiar printed words. The results are related to automatic processing of words in poor comprehenders.

CHANG, FREDERICK R. Active memory processes in visual sentence comprehension: clause effects and pronominal reference. *Memory & Cognition*, January 1980, 8, 58-64.

Presents data from two experiments investigating active memory processes during reading. Subjects in experiment one were 12 paid college undergraduates; in the second experiment, 16 paid college students were used. Subjects were presented with a series of two clause sentences one word at a time at a self-paced rate. Immediately following each sentence, they were shown a probe word and were to decide if the word had occurred in the sentence just read. Clausal effects during

reading were examined. Reaction times to items from the final clause were shorter than those to items from the first clause even when the same number of words intervened. In the second experiment, pronominal reference was investigated. The two clause test sentences had a male and female proper name in the first clause, followed by either a name or a third person pronoun in the second clause. The name or pronoun referred unambiguously to one member of the compound agent in the first clause. The probe word following each sentence was always one of the names occurring in the first clause. Distractor sentences using proper names but varying in form also were included. Results demonstrated that a pronoun in the final clause activated the meaning of its antecedent, thereby demonstrating that the old-new judgment method used is sensitive to both surface and meaning codes in active memory.

YEKOVICH, FRANK R.; WALKER, CAROL H.; & BLACKMAN, HAROLD S. The role of presupposed and focal information in integrating sentences. *Journal of Verbal Learning and Verbal Behavior*, October 1979, 18, 535-548.

Reports the results of two experiments exploring how the linguistic characteristics of both context and target information affect the integration of two sentences. Subjects in both experiments were undergraduate education majors. Subjects read sentence pairs in which the linguistic markings of a repeated noun phrase varied across the sentences. Context sentences incorporated the noun phrase as either presupposed (P) or focal (F), and the target repetition appeared as either presupposed (P) or focal (F). Comprehension time was fastest for FP combinations, intermediate for FF and PP pairs, and slowest for PF combinations. These results were obtained when the proximity of the repeated information was controlled or when target sentences occurred in either the active or the passive voice.

GLASS, ARNOLD L.; HOLYOAK, KEITH J.; & KIGER, JOHN I. Role of antonymy relations in semantic judgments. *Journal of Experimental Psychology: Human Learning and Memory*, November 1979, 5, 598-606.

Measures decision times for sentences or word pairs involving direct (e.g., boy-sister) gender antonyms in a sentence verification task and a lexical decision task. Two experiments, both employing college undergraduates, were reported. In the first experiment, false sentences involving direct antonyms were rejected faster than false sentences involving indirect antonyms. In the second experiment, using a dual-string lexical decision task, an advantage was again found for the direct versus the indirect antonym pairs. Decisions were made more quickly for both types of antonym pairs than for pairs of unrelated words.

RANDHAWA, BIKKAR S., & HUNT, DENNIS. Some further evidence on successive and simultaneous integration and individual differences. *Canadian Journal of Behavioral Science*, October 1979, 11, 340-355.

Attempts to identify simultaneous and successive integrative processes and to determine how they operate. For the study, participants were 169 ten-year-old boys and 158 ten-year-old girls in a Canadian urban school system. The following test battery was administered: *Gapadol Test*, a cloze-type test used as a measure of successive synthesis; *Patterns Tests*, two tests used as measures of simultaneous synthesis; a series of perceptual tasks; and two digit and two letter span tests designed to assess successive processing. Factor analysis techniques were applied to the data. For girls, four first-order and two second-order factors were found. The second-order factors defined general cognitive processes and memory; the first-order factors were defined as successive synthesis, memory, simultaneous synthesis, and integrative synthesis. For boys, four first-order and one-second order factor, a

general factor, were identified. First order factors were successive synthesis, integrative synthesis, memory, and simultaneous synthesis. Additional analyses of boys' and girls' means on three of the tasks were done. Children were classified as low and high on the basis of a median split of simultaneous and successive factor scores. Visual-Reconstruction (V-R), Visual-Verbal (V-VL), and Verbal-Reconstruction (VL-R) tasks were used as dependent variable vectors and significant simultaneous and successive MANOVA effects were found. A significant simultaneous successive interaction was obtained for V-VL and VL-R tasks. The findings are discussed in terms of developmental hemispheric lateralization and integrational synthesis.

GUNTER, BARRIE. Retrieval cues and release from proactive interference with meaningful materials. *Psychological Reports*, August 1979, 45, 247-254.

Employs prose materials to study an explanatory hypothesis of the Wickin's release from proactive interference. Subjects were 40 graduates and professionals, ages 21-40, from London, England. There were four passages from one subcategory (indoor sports) and four passages from a second subcategory (outdoor sports). Each passage could be read in at least two minutes. Four comprehension (recall) questions followed each passage. After reading and before being presented the questions, subjects worked crossword puzzles for one minute. Two of four experimental groups were provided with subcategory names as retrieval cues and two were not. Also, for two groups only, subcategories were shifted on a critical trial. A release from proactive interference in conditions where subcategories were changed on the shift trial was noted, and this release effect was the same for cues before reading and before recall questions. No release from proactive interference occurred when there was no category shift; i.e., there was still interference from the previous passage even with cue names. The author concluded that these results supported previous research even though more complex materials were employed.

GLYNN, SHAWN M., & DIVESTA, FRANCIS J. Control of prose processing via instructional and typographical cues. *Journal of Educational Psychology*, October 1979, 71, 595-603.

Tests the effect of combining two different cuing systems, instructional and typographical, on recall by undergraduate college students. The 176 subjects were randomly assigned to one of eight experimental treatments in which they were to read text with the two cuing systems manipulated to induce a single or double set of cues consistent with one or two sets of text propositions, respectively, or no cues. Among the findings were that 1) a single set of cues elevated recall of cue-related propositions at the expense of cue-unrelated propositions; 2) the presence of two sets of conflicting cues attenuated recall of target information; 3) when there were no cues present, recall was best for propositions that learners designated as important; and 4) recall was increased when propositions were placed near topically related information.

BRITTON, BRUCE K. Use of cognitive capacity in reading easy and difficult texts: test of a breakdown hypothesis. *Perceptual and Motor Skills*, February 1980, 50, 90.

Investigates the breakdown hypothesis as a means of determining cognitive capacity use. Two undergraduates were asked to read 60 difficult passages and two read 60 easy passages. One, two, or three clicks were made randomly during the reading, and reaction time to the clicks was observed. For each subject, about 140 reaction times were recorded. Distributions of reaction times were unimodal rather than bimodal, thus not supporting the breakdown hypothesis.

BURNETT, SARAH A., & STEVENSON, JOHN M. Instructional effects on frequency judgments for sentence meanings. *American Journal of Psychology*, December 1979, 92, 711-721.

Manipulates instructions to subjects to determine the effect on frequency judgments for sentence meanings. The two experiments presented utilized 72 undergraduates as subjects. Subjects were shown a series of sentences under two orienting and two retrieval set conditions. The orienting conditions asked subjects to attend to either the gist or the exact wording of the sentences. Sentences were repeated in either identical or paraphrased form. For the 56 sentences used, type of repetition and frequency of presentation (1, 2, and 4) were varied. In the first experiment, written orienting directions were given. Half of the subjects were told to attend to the gist and half, to the exact wording. In the second experiment, an orienting task rather than orienting directions were given. Following the presentation of each sentence, subjects were asked to rate on a five-point scale the degree of certainty they felt about whether they had previously seen a sentence identical to the one being shown or one with the same underlying meaning. Half the subjects in each group performed each rating task. After the study list, subjects were given a test in which they were shown sentences and asked to estimate either the number of times they had seen an identical sentence or to estimate the frequency with which they had seen a sentence with the same underlying meaning as the test sentences. Findings for the first experiment indicated that frequency can be indexed independently and equally well for both wording and meaning despite orienting instructions to attend to one or the other features. Findings for the second experiment indicated that frequency judgments are enhanced by consistent orienting-retrieval sets and are consistent with the notion that sentences are stored as both verbatim images and propositional representations.

LEVIN, JOEL R.; GHATALA, ELIZABETH S.; & TRUMAN, DIANE L. Reducing intersentence interference via contextual aids. *American Educational Research Journal*, Summer 1979, 16, 249-256.

Conducts a study to determine if providing certain contextual aids would help students reduce interference when presented with two sentences that contain mutually interfering information. Previous research has indicated that when students are given two to-be-learned sentences such as "The lady demanded the seat" and "The lady cashed a check," that including "the check" as a multiple-choice distractor for the question "What did the lady demand?" would result in more errors than some other plausible but unrelated distractor such as "the ticket." This study sought a way to counteract that interference. Subjects were 42 middle-class grade four and five pupils, half randomly assigned to each experimental group. The study materials for the no-context groups were 18 target sentences each paired with one of three types of variation sentences: 1) old-related, 2) old-unrelated, and 3) new. In the context condition, the same materials were used, except that prepositional phrases were added. For half the sentences, the added context was the same for the target and variation; for the other half, the context added to the target was different than the context added to the variation. The sentences in different contexts, no interference was present (i.e., there was no significant difference between old-related, old-unrelated, and new). In the no-context and context same conditions, interference was observed. Theoretical and practical aspects of the findings were presented.

ALLINGTON, RICHARD L. Sensitivity to orthographic structure as a function of grade and reading ability. *Journal of Reading Behavior*, Winter 1978, 10, 437-439.

Explores sensitivity to orthographic structure of good and poor reading second and fourth graders. The *Peabody Individual Attainment Test* was used to

assess reading ability, and the *Peabody Picture Vocabulary Test* was used to measure verbal intelligence. Average reading grades of the four groups were: grade four good readers, 6.0; grade four poor readers, 3.3; grade two good readers, 3.5 and grade two poor readers, 1.2. Because of IQ variations between groups, IQ was used as a covariate. Stimuli were 15 zero-order and 15 fourth-order approximations to English orthography taken from a previous study. Words from the two lists were paired and subjects were instructed to select the one word in each pair that looked most like a real word. There were significant differences between good and poor readers and between all second and all fourth graders, but not between second and fourth grade good readers. The author concluded that orthographic sensitivity is a direct function of reading level, not age or school experience.

FOLARIN, BAMIDELE ADEPEJU. Category labels at presentation and recall of grouped words. *Psychological Reports*, August 1979, 45, 99-104.

Investigates the effects of different positions of category labels on grouped words. There were four conditions of category labels: none, presented after the group of words, presented before the words, and presented with the word. There were eight categories with four words per category. One category was used for a primary buffer, two, for a recency buffer. The other five lists (20 words) were the critical words. The 32 words were shown (one per sec. with one sec. intervals). Ten university students were assigned to each treatment. Category labels generally reduced recall of word and category. The worst performance was obtained when the category label was given after each group of words.

VINING, SUSAN K., & NELSON, THOMAS O. Some constraints on the generality and interpretation of the recognition failure of recallable words. *American Journal of Psychology*, June 1979, 92, 257-276.

Explores the recognition failure of recallable words in the recognition-recall paradigm. Three experiments were conducted. Subjects for all experiments were undergraduates: 81 in the first experiment, 58 in the second, and 62 in the third. Stimuli were 20 items (the critical list) from Tulving and Thompson's list A, and 20 items from list B (the practice list). Experiment I examined the effect of different degrees of associative strength between the cue and target. High associative strength resulted in the most recognition failure, with the amount being greater than that predicted by the Tulving-Wiseman equation. Experiments II and III investigated the possibility that the recognition-recall testing order produces artifactual recognition failure of recallable words. Substantial recognition failure and recall occurred even when the subjects did not have a prior study trial on the target words. This implied that some indeterminate amount of recognition failure in the recognition-recall paradigm was an artifact.

KRAUT, ALAN G., & SMOTHERGILL, DANIEL W. New method for studying semantic encoding in children. *Developmental Psychology*, March 1980, 16, 149-150.

Investigates word encoding in second and sixth graders by use of a familiarization procedure. In Experiment 1, the stimuli were two sets of five words, the words in each set were highly associated. The two sets in Experiment 1 were taxonomic classifications: five animal names and five names of body parts; in Experiment 2, stimuli were evaluative connotation words, five positive and five negative. Subjects were different groups of 20 second and 20 sixth graders for each experiment. In both experiments, children viewed on a rear projection screen 30 presentations of four of the five words of the set. Then, one word from each list (neither seen before) was attached to one of two response keys. The remaining eight words were then shown, and pupils pressed the key of the word that was the same category as the target. For both taxonomic and evaluative encodings, sixth

graders performed better than second graders and the familiar category was recognized faster than the unfamiliar category. There were no significant interactions.

BOWYER, PAUL A.; HUMPHREYS, MICHAEL S.; & BAKER, TONISE A. The effect of contiguity with the preceding word on serial anticipation learning: a test of the chaining hypothesis. *American Journal of Psychology*, June 1979, 92, 335-349.

Tests the sequential association hypothesis of serial anticipation learning by manipulating the proportion of trials on which the words of two designated contiguous positions actually appear. Subjects learned two lists of ten adjectives, one list on each of two successive days. The serial anticipation method was used. In both the experimental and control groups, two words were replaced on each trial by a place holding symbol. In the experimental group, the sixth word appeared (was not replaced by the symbol) in half the trials and the seventh word appeared in the other half. Thus, these two words never appeared together on the list. One other word was also deleted, but that word varied from trial to trial. In the control group, both the sixth and seventh words occurred on the list on half the trials and both words did not occur on the other half of the trials; that is, half the time the words appeared together and half the time they did not. Subjects were 48 undergraduates. It had been hypothesized that the difference in performance between the experimental and control conditions should be greater at the seventh position than at the sixth, as a result of the difference in number of opportunities to form an association between the two critical words. This interaction was found. Also, the fact that the pattern of the data was similar on two successive days suggested that the results were probably not due to a strategy shift. The results were interpreted as supporting some form of position hypothesis.

COLEMAN, EDMUND B., & MORRIS, GARRY. Generalization tests: a terminology that focuses attention on fixed-effect restrictions. *Journal of Reading Behavior*, Winter 1978, 10, 377-392.

Tests the finding reported in previous research that stimulus imagery is more facilitative than response imagery in a paired-associate task requiring children to learn the sounds of letters. Two experiments were performed, each using eight children ranging in age from about 54 to 69 months. Children were taught letter sounds using various picture elaborators. The findings of previous research were not supported. The authors discuss their findings in terms of theory construction based on typical experiments. It is suggested that rather than significance test, generalization test be utilized.

MAKI, RUTH H., & SCHULER, JENNIE. Effects of rehearsal duration and level of processing on memory for words. *Journal of Verbal Learning and Verbal Behavior*, February 1980, 19, 36-45.

Evaluates the effects of Type I rehearsal in three experiments. (Type I rehearsal refers to recycling an item in memory while the level of encoding remains the same. This is contrasted to Type II rehearsal, a process which increases the depth of the encoding.) Subjects in the three experiments were introductory psychology students; there were 60 or 64 per study. Target words were exposed on a DECscope VT52 computer terminal. In Experiments 1 and 2, Type I rehearsal produced increases in free recall with increases in rehearsal duration. In Experiments 2 and 3, both level of processing and rehearsal duration were manipulated. In both experiments, recall increased with deeper levels of processing and with longer rehearsal intervals. However, the influence of these two variables was independent, that is, the interaction between level of processing and rehearsal duration was not significant. The author states that level of processing and rehearsal duration might affect memory independently by strengthening different attributes.

MEFFERD, ROY B., JR. Word association: grammatical, semantic, and affective dimensions of associates to homonyms. *Psychological Reports*, October 1979, 45, 359-374.

Presents scoring schema of word associations for grammatical form, affective and semantic-syntactic associates, developed using factor analyses of logically developed schema. The schema evolved over the past 20 years with hundreds of ambiguous words and a thousand subjects of several normal and patient categories. The procedures, rationales, and results of the three schema are presented with the factor structures obtained with 100 normal adult males with mean education at the high school level. The interaction between these dimensions that relate to the organization and size of the associative networks with a number of nomothetic and psychometric variables were examined. Virtually no cross-over between the affective and semantic associative networks was noted. A significant difference was noted, however, in the faulting behaviors with the two networks.

WICKER, FRANK W.; WEINSTEIN, CLAIRE E.; & THORELLI, IRENE M. Imagery value and unitization in verb-noun pairs. *American Journal of Psychology*, June 1979, 92, 277-291.

Relates paired-associate learning and free recall of noun/verb pairs 1) to the rated appropriateness of the pairs of words, 2) to the rated imagery of the nouns and the verbs separately, and 3) to the rated imagery of the pair as a unit. Two experiments were conducted. In Experiment I, two lists of 20 nouns varying in imagery value were randomly paired with two lists of 20 verbs of varying imagery value. Subjects were 76 introductory educational psychology students: 38 to rate the imagery values, 38 to learn the pairs. In Experiment II, the compatibility of pairs was varied orthogonally. Twenty-four high concrete verbs and 24 low concrete verbs were paired with 24 high and 24 low imagery nouns. The subjects, 68 introductory educational psychology students, learned the pairs as either free recall or paired associative learning tasks. In both studies, rated verb imagery or concreteness predicted both types of learning. Pair imagery did not predict retention better than component word imagery; however, imagery effects were associated with a process of pair integration. Rated appropriateness of pairs was inversely related to the imagery value of the components. The results were interpreted as not supporting a semantic-relatedness interpretation of concreteness effects in learning.

HIGBEE, KENNETH L. Recent research on visual mnemonics: historical roots and educational fruits. *Review of Educational Research*, Fall 1979, 49, 611-629.

Reviews the research on visual mnemonics by comparing recent visual mnemonic techniques with research in the late 1800's and early 1900's. The practical education implications of recent research on mnemonics are presented.

DWYER, FRANCIS M. *Strategies for improving learning*. State College, Pennsylvania: Learning Services, 1978.

Uses prior research on the use of visualized materials to draw general trends about effective design and use of visual media. The book is divided into 13 chapters, many of which include summaries of research related to specific topics. In all, 650 articles are cited throughout the book. The results suggest that the use of visual materials to complement oral/print instruction is not equally effective in all instructional environments. The author concluded that effectiveness is dependent upon a) the amount of realistic detail in the graphic aid used; b) the method by which the visualized instruction is presented; c) learner characteristics such as intelligence, reading and/or oral comprehension level, and prior knowledge; d) type or level of educational objective to be attained; e) technique used to focus attention on the essential learning characteristics of the graphic materials; and f) the

type of test format employed to assess students' acquisition of knowledge. The final chapter suggests needed research directions.

GENTNER, DEDRE, & LOFTUS, ELIZABETH F. Integration of verbal and visual information as evidenced by distortions in picture memory. *American Journal of Psychology*, June 1979, 92, 363-375.

Presents subjects with a series of sentences, some of which were labeled general (e.g., "A girl is walking down the path.") and others labeled specific (e.g., "A girl is hiking down the path."). These sentences were matched with either a general picture (e.g., a girl walking down a path) or a specific picture (e.g., the same girl on the same path, except that she now has a pack and boots and carries a walking stick). There were 16 sets of pictures and accompanying sentences. Subjects were 36 psychology students at the University of Washington. Sixteen of the paired pictures (one of each pair) and 16 filler pictures were projected. Subjects were given a sheet of paper with 39 sentences; 16 that matched the critical slides, 16 that matched the fillers and 7 extras. Subjects matched each slide as it was projected with one of the 39 sentences. Critical sentences and pictures were counter-balanced. One week later the dependent variable was measured: subjects ability to select from the 16 critical pairs of pictures and picture they had seen. It was found that labelling the picture with a sentence containing a specific verb significantly increased the likelihood that the specific picture corresponding to that verb would be falsely recognized. The results are discussed in terms of theories of memorial representation.

PENG, CHAO-YING, & LEVIN, JOEL R. Pictures and children's story recall: some questions of durability. *Educational Communication and Technology*, Spring 1979, 27, 39-44.

Probes the effect of story-relevant pictures on short term and longer term recall. There were 64 grade two pupils, randomly assigned to two picture and two control groups. In the picture groups, children were shown colored pictures while they listened to a tape-recorded story. In the control groups, children read each sentence concurrently with its tape-recorded presentation. Ten verbatim and paraphrase questions were developed for the two stories presented. Immediately following the story, subjects were given a cued recall test of the stories or a drawing activity. Three days later, all subjects were tested either for the first or second time on the verbatim or paraphrased questions. Mean percentages correct for subjects tested immediately after the story were about 77% for the picture group and 59% for the control group when both types of questions are combined. For the delayed testing, again the picture group recalled more than did the controls.

SCHULTZ, E. EUGENE, JR., & WOODALL, KAREN. A comparison of pictorial and narrative learning mediators in lower- and middle-class children. *The Journal of General Psychology*, January 1980, 102, 147-152.

Compares the effects of pictorial and narrative mediators in children. A total of 126 third- and fourth-grade children were used. Ten nouns, randomly selected from the Dolch Basic Word List were prepared in two forms, printed only and printed accompanied by an illustration. Children were assigned randomly to one of three presentation conditions: pictorial, narrative, or control. All subjects were individually presented with a list of 10 words which they were told to try to remember. After the words were read, controls were shown a poster with the words alone on them and told to look at them. The narrative mediator group had to write a story using all the words, and the pictorial mediator group viewed the poster with words and pictures. Groups had four minutes to study the words or write their

stories. One minute after the removal of the posters, children were asked to write down as many of the words as they could recall. Protocols were scored for the number of correctly recalled words. The pictorial mediator condition produced significantly better recall than did either of the other conditions; the difference in recall between the other two groups was not significant.

BRODY, PHILIP J., & LEGENZA, ALICE. Can pictorial attributes serve mathemagenic functions? *Educational Communication & Technology*, Spring 1980, 28, 25-29.

Explores whether or not incidental learning is affected by 1) placing a picture after, rather than before, a reading passage, and 2) using a picture that represents a broad overview of an entire scene rather than a single incident. The 92 undergraduate students used in the study were divided into four groups, each of which was presented with the same 1,200 word passage. Two of the groups were given the passage to read with an overview picture; two, with a specific incident picture. In each picture group, one group saw the picture before reading the passage, and the other group saw it after reading. Reading was followed by a 24-item multiple-choice test assessing different types of incidental learning. Placing the picture after the reading appeared to be more beneficial than placing it before the passage. Those seeing the overview picture scored higher than those viewing the specific incident picture, although this difference was not statistically significant.

DURSO, FRANCIS T., & JOHNSON, MARCIA K. Facilitation in naming and categorizing repeated pictures and words. *Journal of Experimental Psychology: Human Learning and Memory*, September 1979, 5, 449-459.

Reports two experiments in which subjects ($N = 36$ and 48 undergraduates) named or categorized a picture preceded sometime earlier by itself or by its verbal label, as well as a word preceded by itself or a pictorial counterpart. The extent to which the second item benefited from prior processing was a function of the mode of the second item, the mode of the previous occurrence of the concept, and the task. The results of the naming task of Experiment 1 suggested that words are more generic, in that they tended to facilitate processing of subsequent occurrences of the concept regardless of the mode of the second occurrence, whereas pictures tended to facilitate only subsequent pictures. In fact, reading a word was not faster after having just named a pictorial representation of that concept. Experiment 2 explored, and ruled out, the possibility that this failure to find facilitation was the result of an inhibitory mechanism. In general, the data are consistent with the idea that pictures and words consult the same semantic system for their interpretation but that words activate a more generic set of semantic information than do pictures.

SPERBER, RICHARD D.; MCCAULEY, CHARLEY; RAGAIN, RONNIE D.; & WEIL, CAROLYNE M. Semantic priming effects on picture and word processing. *Memory & Cognition*, September 1979, 7, 339-345.

Studies the effects of semantic priming on picture and word processing under conditions in which subjects were required simply to identify stimuli (label pictures or read words) as rapidly as possible. In all three experiments conducted, subjects were paid undergraduates (40, 20 and 16, respectively). Stimuli were presented in pairs (a prime followed by a target), with half of the pairs containing members of the same semantic category, and half containing unrelated concepts. Semantic relatedness was found to facilitate the identification of both pictures (Experiment 1) and words (Experiment 2), and obtained interactions of semantic relatedness and stimulus quality in both experiments suggested that semantic

priming effects the initial encoding of both types of stimuli. In Experiment 3, subjects received pairs of pictures, pairs of words, and mixed pairs composed of a picture and a word or of a word and a picture. Significant priming effects were obtained on mixed as well as unmixed pairs, supporting the assumption that pictures and words access semantic information from a common semantic store. Significantly greater priming obtained in picture-picture pairs than in word-word or mixed pairs. This suggested that, in addition to priming that is mediated by the semantic system, priming may occur in picture-picture pairs that results from the overlap in visual features common to the pictorial representations of objects from the same semantic category.

RUSTED, JENNIFER, & COLTHEART, MAX. Facilitation of children's prose recall by the presence of pictures. *Memory and Cognition*, September 1979, 7, 354-359.

Presents findings from two experiments measuring immediate and delayed recall of information presented in stories with and without pictures. In Experiment 1, each subject read six short stories: three with line drawings of the subject of the story (creatures or plants) and three without. Subjects were 72 boys and girls (36 good and 36 poor readers) from a junior school in Reading, England. Their average age was 9-10. Reading age was measured by the *Schonell Graded Reading Vocabulary Test*. Experiment 2 was similar to the first, but in addition, the effects of colored drawings and additional details were measured. And instead of classifying subjects as good or poor readers, reading age (assessed with the *Spar Reading Test*), CA, sex of subject, reading time, and amount of prompting were covariates in the analysis of recall. Subjects were 100 junior school students, ranging in age from 8 to 9-10. Immediate and delayed free recall performance was higher following presentation with pictures than without. Inclusion of color and additional detail within the pictures had no effect on any of the measures analyzed. The presence of pictures increased the recall of both pictorial and nonpictorial features from the passages. It was concluded that pictures play a significant role in the enhancement of children's retention of prose passages.

GUTTENTAG, ROBERT E. Picture-naming interference with good and poor readers. *Perceptual and Motor Skills*, August 1979, 49, 67-70.

Examines good and poor readers' ability to name pictures in four levels of interference. Subjects were 22 third graders, 11 classified on the *Iowa Test of Basic Skills* as good readers (average reading level, 5.1), and 11 as poor readers (average reading level, 2.9). The stimuli were nine line drawings of words from three semantic categories: animals (dog, horse, pig), furniture (bed, table, chair), and transportation (car, boat, plane). There were four conditions of interference in which the picture was presented with one of the following superimposed: 1) a string of 3-6 consonants, 2) a pronounceable pseudoword, 3) extra-category words, and 4) intracategory words. Response latency for naming each picture was measured. Both groups experienced more interference from intracategory than extra-category words, indicating that they processed the words automatically. Only the good readers experienced more interference from pseudowords than consonant strings, suggesting that poor readers are less sensitive than good readers to orthographic regularity.

DOLLERUP, CAY. Effect of prereading instruction on readers' responses. *Journal of Reading*, November 1979, 23, 112-120.

Carries out a series of pilot studies and a main experiment to note the effect of questioning on readers' response to a short story. In the main experiment, 717 Danish high school students and 27 Danish psychology students served as

subjects. Students read a short story which was presented with a questionnaire following each page on which to record their attitudes toward the protagonist on a five-point scale. Data are presented on 386 readers. In analyzing the data, it was found that only 17 subjects did not change their attitude during reading. Whereas instruction or prequestioning in the pilot studies affected readers' spontaneous responses deeply, the use of the questionnaire did not appear to have as strong an effect.

DYER, JAMES W.; RILEY, JAMES; & YEKOVICH, FRANK P. An analysis of three study skills: notetaking, summarizing, and rereading. *Journal of Educational Research*, September/October 1979, 73, 3-7.

Researches separately and in combination the effectiveness of three reading study strategies in dealing with a 2000 word social science selection. Subjects were 180 undergraduate and graduate students. The three conditions - notetaking, writing a summary, or rereading - were combined with test type - verbatim or substance test items - and with immediate test or seven day delay. Each experimental and control group consisted of 20 subjects. Highly significant differences favored the pooled experimental groups over the control. Both notetaking and rereading improved recall. Notetakers took significantly longer to complete their tasks. The effects of combined conditions were not additive. The authors concluded that the presence of the original text was essential to further learning.

ORLANDO, VINCENT P. Notetaking vs. notehaving: a comparison while studying from text. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 177-181.

Tests immediate and delayed recall of subjects who took notes while studying and compares results with those of subjects who did not take notes. Subjects were college students who volunteered and were randomly assigned to treatment groups. They read a 1,500-word section from a psychology text followed by a 20-item immediate recall test and, four days later, a 20-item delayed recall test. Subjects in the notetaking group were told to read one paragraph at a time, then to stop and construct notes on it. Subjects in the reading group were instructed to read through the material as if reading an article and not to mull over ideas. A twelve-minute time limit was set for both groups. No significant differences were noted for the two groups on either immediate or delayed recall tests. In a second study, the same procedures were followed except that unlimited time was given for reading. On immediate recall, the notetaking groups scored significantly better than the read only groups, but they also took a significantly longer time to read the passage. Similar results were obtained for delayed recall.

SHIKANAI, NOBUYOSHI. The effects of summarising, note-taking and underlining activities on the learning of prose material. *The Science of Reading*, April 1980, 24, 1-9. (English summary p. 9.)

Investigates the effects of summarizing, notetaking, and underlining in two studies done with college students in Japan. In the first study, 40 male subjects were assigned to four groups of 10 each: summarizing, notetaking, underlining, and a reading-only control group. Subjects were given 13 minutes in which to read a 24 sentence prose selection with instructions to conduct the assigned learning activity to read only in the control group. Two posttests were given: 1) writing the main theme, an inference task; and 2) recalling and rewriting the text. Differences among the four groups were slight although the control group showed the best recall and, along with the notetaking group, gave more examples of the main theme. For

experiment two, the free recall test was replaced by a cloze procedure divided into a beginning, middle, and end block. Subjects consisted of 11 males and two females in each experimental group and eight males and two females in the control group. For the main theme test, no significant variations were noted among the four groups. The controls had lower cloze scores for the beginning section of the material while the experimental groups had lower cloze scores for the middle and final sections.

HARTLEY, JAMES; BARTLETT, SALLY; & BRANTHWAITE, ALAN. Underlining can make a difference—sometimes. *Journal of Educational Research*, March/April 1980, 74, 218-224.

Presents sixth-grade children with experimenter underlined or normal text and assesses recall. Five university students were asked to underline the key words in a 300 word extract. From their responses, 15 key words were selected and two versions of the passage prepared — an experimental version with the key words underlined and a control version. The 55 British sixth graders used as subjects were randomly assigned to an experimental or control condition. They were asked to read the passage through twice and then given the passage as a cloze test with 35 blanks, including the 15 key words. The cloze test was repeated a week later. Children scored higher on the cued words than on the noncued words, irrespective of treatment. Scores on the cued words that were underlined were significantly higher than scores on the same words that were not underlined in the control passage.

RICKARDS, JOHN P. Notetaking, underlining, inserted questions, and organizers in text: research conclusions and educational implications. *Educational Technology*, June 1980, 20, 5-11.

Reviews selected research literature on notetaking, underlining, inserted questions in text, and advance organizers. The author raises questions relative to the research findings under each topic and draws warranted generalizations.

REDER, LYNNE M., & ANDERSON, JOHN R. A comparison of texts and their summaries: memorial consequences. *Journal of Verbal Learning and Verbal Behavior*, April 1980, 19, 121-134.

Reports the nature and results of seven experiments comparing the differential influence of reading college textbook chapters or their summaries upon reader learning/retention. Subjects were drawn from a university undergraduate population; N varied from 20 to 39. Results indicate a consistent advantage for summaries under the laboratory conditions utilized. Summaries maintained their advantage over recall periods ranging up to one year, in time required, for both direct and indirect questioning, and in facilitation of new learning.

MEEKS, JANE WARREN. Imbedded aids to readers: an alternative textbook approach. *Reading Improvement*, Summer 1979, 16, 95-98.

Compares the influence of a number of mobilizing and content reinforcing aids and related teacher structuring upon the immediate and one week recall of four science selections with control group performance receiving equivalent time in general selective readiness activities. Subjects consisted of 50 seventh graders randomly assigned to experimental and control groups and classified into three reading levels by means of prestudy cloze measure. Criterion measures consisted of multiple-choice tests assessing literal recall over the content of the selection. No significant differences resulted from analysis of the data, although the experimental high level readers displayed higher scores on both the immediate and delayed tests.

AUSUBEL, DAVID P. In defense of advance organizers: a reply to the critics. *Review of Educational Research*, Spring 1978, 48, 251-257.

Argues in defense of the operational definition of advance organizers that the author has given in several places. The research literature where criticisms of advance organizers are presented was reviewed and criticized.

MAYER, RICHARD E. Can advance organizers influence meaningful learning? *Review of Educational Research*, Summer 1979, 49, 371-383.

Discusses three limitations of a previous review of advance organizers. Suggests that further study of advance organizers provides a potentially fruitful area in instructional psychology.

HILLERICH, ROBERT L. (Ed.) Advance organizers and other pre-reading aids: what's best? By Mary Wray. *Ohio Reading Teacher*, April 1978, 12, 35-39.

Looks at the research findings on advance organizers and other pre-reading aids and concludes that cognitive organizers are a better means of pre-reading assistance at the elementary level than are directed reading questions.

SATTERLY, D. J., & TELFER, I. G. Cognitive style and advance organizers in learning and retention. *British Journal of Educational Psychology*, 1979, 49 (Part 2), 169-178.

Tests the hypothesis that advance organizers interact with individual differences in cognitive style (field independence). The subjects of the experiment were 96 boys and 84 girls from an English comprehensive school. Their average age and IQ were 14-10 and 101, respectively. Cognitive style was assessed by performance on a test of embedded figures. Three groups of 60 subjects resulted: five independent, intermediate and field dependent. Blocks of students were assigned to 3 teaching groups: 1) control, 2) advance organizers alone and 3) advance organizers plus specific references at fixed points in the lesson to induce meaningful set by drawing the learners' attention to the superordinate ideas presented in the organizer. Two lessons on meaning, analysis and construction of words were given and the groups were compared in recall and transfer. There were significant differences between cognitive styles, as well as a significant style $\times$ treatment interaction. It was concluded that considerable gains can be made when students, especially field dependent students, are made consciously aware of the superordination-subordination process.

PETERSON, CHRIS; GLOVER, JOHN A.; & RONNING, ROYCE P. An examination of three prose learning strategies on reading comprehension. *The Journal of General Psychology*, January 1980, 102, 39-52.

Compares the effects of three reading conditions (comprehension objectives, comprehension questions in text, and advance organizers) on the reading comprehension of 63 educational psychology class members in reading 1500 word essays. *Nelson-Denny Reading Test* (NDRT) scores were used as a covariate in the data analysis. Experimental and control groups were used in each reading condition. Regression analysis revealed that comprehension scores on the NDRT were a significant predictor of performance in each reading condition. Experimental group performance was not notably better than that of controls. The objectives condition provided support for intentional reading learning. The findings provided little support for mathemagenic theory.

MAYER, RICHARD E., & BROMAGE, BRUCE K. Different recall protocols for technical texts due to advance organizers. *Journal of Educational Psychology*, April 1980, 72, 209-225.

Compares the qualitative effects of advance organizers on the short- and long-term recall of technical reading. Two treatment groups were formed using 60 college students of both high and low mathematical ability. One group was presented with an advance organizer before reading the text, while the other group was presented with the organizer after reading the text (past organizer). Recall of the text was evaluated using three essay-type questions. Each essay proposition was placed in one of nine categories: technical idea units, format idea units, concept idea units, text-appropriate intrusions, text-inappropriate intrusions, model intrusions, novel summaries, vague summaries, and connective summaries. Results supported an assimilation encoding theory with significant and qualitatively different recall patterns in favor of the advance organizer group. The results were consistent across two experiments for both low and high ability groups and for immediate and delayed effects.

RICKARDS, JOHN P., & HATCHER, CATHERINE W. Interspersed meaningful learning questions as semantic cues for poor comprehenders. *Reading Research Quarterly*, 1977-1978, 13(4), 538-553.

Explores the interaction between level of adjunct question and type of reader on children's comprehension of reading material. The 93 fifth-graders used in the study were classified as good or poor comprehenders on the basis of the Composite Comprehension score on the *New Developmental Reading Test*, Intermediate Level. All subjects scored at or above grade level on the vocabulary subtest. Subjects were asked to read an 800-word passage consisting of 16 paragraphs. After every two paragraphs they received either a meaningful learning question requiring the organization of facts, a rote learning question requiring literal recall, or no adjunct question of any kind. For most measures of text recall, good comprehenders recalled more than poor comprehenders, and the type of treatment presented did not have a significant effect. For poor comprehenders, meaningful learning post questions yielded significantly greater recall of facts than did the other two procedures. On a measure of recall of subordinate information, poor comprehenders given meaningful learning post questions did not differ significantly in their performance from good comprehenders, regardless of the kind of treatment the latter received.

MEEKS, JANE WARREN. Effects of imbedded aids on prose-related textual material. *Reading World*, May 1980, 19, 345-351.

Undertakes an investigation to see if imbedded aids improve comprehension. Subjects were 174 college freshmen enrolled in a reading improvement course; 82 were assigned to the experimental group and 92, to the control. All scored below the 50th percentile on the *McGraw Hill Reading Test*. Subjects were given four selections to read. In the experimental condition, subjects were provided with imbedded aids in the materials and instructed in their use. Controls were given instruction in the effective use of the Directed Reading Activity. Aids included 1) vocabulary defined in left-hand margin, 2) reader helper notes, 3) overview directions, 4) rhetorical questions, 5) summary outlines, 6) vocabulary checks, 7) comprehension checks, 8) numbering the main lines of text, and 9) word derivatives were discussed. Passage scores of literal questions over the material significantly favored experimentals. Experimentals also improved scores from the first to the fourth passage.

FOWLER, ELAINE D., & LAMBERG, WALTER J. Effect of pre-questions on oral reading by elementary students. *Reading Improvement*, Spring 1979, 16, 71-74.

Examines the effects of questions asked prior to reading on word recognition and comprehension. Two sets of subjects were used: 16 subjects in the first set, and 18 in the second. All were elementary pupils in grades one through five. Subjects read material presented as an Informal Reading Inventory (IRI) at their independent and frustration levels. Children read IRIs in both a post-question and a pre-question format. No significant differences were found on comprehension or word recognition for either question condition. The authors concluded that elementary pupils, unlike college students, may not take advantage of pre-questions, because they are attending too much to the word recognition process.

WILSON, MOLLY M. The effects of question types in varying placements on the reading comprehension of upper elementary students. *Reading Psychology*, Spring 1980, 1, 93-102.

Investigates the effects of two levels of reading ability (average and below average) upon retention, question placement (pre-questions, interspersed, and post-questions), and three levels of question type (factual, inferential, multiple-choice). The 13 sixth graders and 23 seventh graders involved were identified as average or below average readers on the basis of scores on the *California Achievement Test*, Reading subscore. Children read three 1500-word stories judged to be at low fifth-grade readability level. Four factual and four inferential questions were placed in each story as either pre-questions, interspersed questions, or post-questions. Each pupil read one story in each question placement condition. Following reading, the eight questions were asked in the order of text presentation, first with and then without the aid of the text. Additionally, 20 multiple-choice questions were asked. Average readers performed better than below average readers on two of the three passages. Average readers performed significantly better than below average readers on inference and multiple-choice questions, but there were no differences between the two groups on responses to factual questions. There were no effects for question placement.

HUDGINS, BRYCE B.; DORMAN, JAMES; & HARRIS, MARY. Some effects of adjunct questions on intermediate grade children with differing reading comprehension abilities. *The Journal of Educational Research*, May-June 1979, 72, 259-265.

Examines the effect of adjunct questions on the reading comprehension of 133 fourth, fifth, and sixth graders divided into two levels of comprehension ability. Four experimental treatments were compared: 1) Questions Before - 1, one adjunct question prior to each of seven paragraphs; 2) Questions Before - 7, seven questions read and answered before reading the seven paragraphs on which they were based; 3) Questions After - 1, one question read and answered after each paragraph; and 4) Questions After - 7, in which seven questions were answered following the reading of seven paragraphs. A 28-item multiple-choice criterion test containing the 14 adjunct questions and 14 new questions was developed. Significant effects were found in favor of the questions after treatment with greater benefit for above median comprehenders than for the below median comprehenders. For repeated questions, scores were better if children had answered questions one at a time rather than in blocks during reading.

KAUCHAK, DON; EGGEN, PAUL; & KNOLLMAN, PATRICIA. Mathemagenic behaviors: implications for the classroom teacher. *Reading Improvement*, Spring 1978, 15, 60-64.

Reports on the findings of the research literature related to mathemagenic behaviors. Conclusions drawn include the following: 1) Adjunct questions should be placed after the material relevant to the question, 2) Feedback should be given when using adjunct questions, 3) Adjunct questions can be used to tap higher levels of learning, and 4) Objectives and questions related to the material should be interspersed throughout the text and not placed at the beginning.

DEE-LUCAS, DIANA, & DIVESTA, FRANCIS J. Learner-generated organizational aids: effects on learning from text. *Journal of Educational Psychology*, June 1980, 72, 304-311.

Examines the effects on learning from text of four contexts when they were generated by readers or provided in text. The four types of organizational contexts were topic sentences, headings, related factual sentences, and unrelated sentences. Half of the readers generated organizational aids and half read the text with the aids provided. The 133 female college subjects were randomly assigned to one of eight experimental conditions. Subjects read a 522-word passage consisting of 15 paragraphs, each discussing a separate topic, but all topics were about minerals. Performance under each treatment was examined by means of a free recall test, a matching test, and a test for knowledge of passage structure. Provided contexts had no effect on knowledge of passage structure but increased recall of subordinate information over generated contexts. Readers who generated topic sentences recalled more than all other groups.

PIEDMONT, RALPH L., & KAYSON, WESLEY A. Effects of task instructions and passage difficulty on semantic and non-semantic processing of linguistic ideas. *Psychological Reports*, August 1979, 45, 83-88.

Manipulates knowledge of a recognition test, voicing an opinion about a passage, and difficulty level of the passage and studies the results on recognition. Subjects were 80 undergraduates who were assigned to one of eight groups. Each subject was given one passage to read as it was simultaneously being played on a tape recorder. Subjects in the no-voice condition immediately took an 18-question multiple-choice test, while subjects in the voice-an-opinion groups first reacted to the material and then took the test. When total scores were analyzed, it was found that groups who were given prior knowledge of a test, voiced an opinion, and received the difficult passage performed better. Questions were broken down into non-semantic and semantic types and data analyzed for these. Subjects who knew a recognition test would follow performed better on the non-semantic questions; subjects who had the difficult passage answered more non-semantic questions correctly. For semantic questions, scores on the difficult passage were better for subjects who voiced an opinion when knowledge of the test was present. However, when knowledge of the test was present, semantic question scores on the easy passage were higher when subjects did not give an opinion than when they did. Results are discussed in terms of a depth of processing theory.

PEARSON, GREGORY. The acquisition of knowledge from text. In P. David Pearson & Jane Hansen (Eds.) *Reading: disciplined inquiry in process and practice. Twenty-seventh Yearbook of the National Reading Conference*, 1978. Pp. 61-67.

Reports results of some prose research.

ALESSI, STEPHEN M.; ANDERSON, THOMAS H.; & GOETZ, ERNEST T. An investigation of lookbacks during studying. *Discourse Processes*, July/September 1979, 2, 197-212.

Examines the influence of experimenter-induced lookback opportunity upon the performance of 92 university freshmen when reading a 4,926-word text

with inserted questions presented on a computer terminal four lines at a time. The experimental group differed from the control in that it received lookback opportunity targeted to pertinent prior context when the inserted question was missed. Total material results did not clearly support lookback facilitation of learning. Conditional factors suggested included notable variance in subject need for lookback and insensitivity of some material to lookback facilitation. In general, however, subjects receiving lookbacks showed better comprehension of later information dependent upon the prerequisite information.

SCHWARZ, NORBERT; FREY, DIETER; & KUMPF, MARTIN. Interactive effects of writing and reading a persuasive essay on attitude change and selective exposure. *Journal of Experimental Social Psychology*, January 1980, 16, 1-17.

Explores the effects of writing an essay supporting one's own position on the impact of communications from others that either support or oppose this position. Subjects were 136 German high school students with a mean age of 17. Subjects wrote an essay either supporting their own position on an issue or irrelevant to that issue. Subsequently, they received a communication that either supported or opposed their position, and that either claimed to present the only reasonable position or acknowledge the viability of alternative positions. Then, they reported their own beliefs in the position being advocated, and finally were given an opportunity to obtain subsequent information that either supported or opposed this position. Attitude change in the direction of a proattitudinal communication occurred only when both a) this communication asserted that only the position advocated was defensible and b) subjects had previously written a proattitudinal essay themselves. Moreover, either of these factors was sufficient to prevent attitude change in the direction of counterattitudinal communication.

IV-6 Visual perception

LUPKER, STEPHEN J. On the nature of perceptual information during letter perception. *Perception and Psychophysics*, April 1979, 25, 303-312.

Investigates the role and the identities of the features of letters used in letter recognition, specifically, the build up of perceptual information during the perceptual process. Discusses the feature accumulation and global-to-local models of letter perception. The stimuli for the experiment conducted were blurred images created by a defocusing a slide. Subjects were 11 volunteer University of Wisconsin undergraduates. Stimulus, response and interstimulus interval were recorded. A simple masking paradigm was used. Subjects' responses were first to name the feature (letter, lines, non-words), then one of the four specific stimuli of that feature. The results were not in line with the predictions of feature accumulation models, but were predicted by a global-to-local model. The author hypothesized that when a letter is presented, the observer initially perceives a large array of information and then the perceptual system brings the letter into focus.

HANLEY, V., & COX, DAVID L. Individual differences in visual discrimination of letters. *Perceptual and Motor Skills*, April 1979, 48, 539-550.

Argues that research on the distinctive features of letters has been inconclusive because the data analyses of previous studies overlooked the effect of individual variation by collapsing individual performance into group means, and because these studies employed artificial or atypical reading tasks. Ten graduate students were presented 650 letter pairs: the 325 possible "different" pairs of the 26 capital letters plus 325 "same" pairings (the letters were the same) of 12 or 13 matches of each of the 26 letters. The pairs were presented at four second intervals

in blocks of 21 trials. Subjects pushed a hand-held button when they recognized the letters as different. The response latency was the dependent variable and was analyzed using INDSCAL, a multi-dimensional scaling procedure which weights individual contribution to a psychological space. The analyses yielded four underlying dimensions: linearity vs. curvature, vertical drive, angularity, and closure space. Another dimension was an artifact of the confusability of two pairs (E-F and O-Q). Individuals varied significantly in their utilization of these features, suggesting that future research must examine individual variation in the perceptual process—and that previous research should be reexamined.

ODEN, GREGG C. A fuzzy logical model of letter identification. *Journal of Experimental Psychology*, May 1979, 5, 336-352.

Tests the ability of the fuzzy logical model to describe the process of letter perception. Subjects were 20 undergraduates. Stimuli were 6 x 6 factorial stimulus matrices based on the letter pairs T and F, K and L, and G and Q. After viewing each of the 36 stimuli for each letter pair, subjects rated the degree to which the stimulus was one letter as opposed to its alternative for that matrix by placing a pin along a line on which the end of each line was associated with one of the response alternatives. The alternatives used a description of the sound instead of the letter name. The results were accounted for by a model in which a) each feature has an associated fuzzy predicate that is used to evaluate independently the degree to which it is true that the feature is present in the stimulus; b) the featural truth values are integrated according to fuzzy logical expressions that correspond directly to propositional descriptions of each letter pattern; and c) the resulting goodness of match to the stimulus for each letter is compared to that of the alternatives to determine the final identification.

MASON, MILDRED. Reading ability and the encoding of item and location information. *Journal of Experimental Psychology: Human Perception and Performance*, February 1980, 6, 89-98.

Investigates in two experiments the encoding of item and location information in relation to reading skill. In the first study, 32 undergraduates were designated as highly skilled or less skilled readers on the basis of scores on the *Nelson-Denny Reading Test*. Eight subjects within each level of reading ability were assigned to either an item perception or a location perception task. For the item perception task, stimuli consisted of four uppercase letters presented singly at a central fixation point for four times at each of eight exposure durations. Stimuli for the location perception task consisted of a linear array of three dollar signs on one of four uppercase letters, again exposed at eight exposure durations. The two reading ability groups were differentiated only by the perception of the location of a letter. Less skilled readers required more time than highly skilled readers to encode location information. In the second experiment, eight highly skilled and eight less skilled readers were identified. Displays consisted of one letter and three dollar signs. The letter had to be identified under two location cuing conditions. When subjects were cued in advance as to which serial position would contain the letter, the two groups were equivalent. When the location of the letter had to be resolved prior to identification, skilled readers were significantly more accurate than less skilled readers. The author interpreted the results as suggesting that the role of perception in reading has been underestimated because emphasis has been placed on item perception rather than perception of spatial location.

SHAW, EVA. The effects of attentional focus on graphic discrimination. *The Alberta Journal of Educational Research*, June 1979, 25, 103-116.

Compares the effectiveness of four methods of training young children in the visual discrimination of letters. The subjects were 132 children between the ages of 4-0 and 4-6 attending day-care centers. Children were randomly assigned to one of four experimental training groups: 1) subjects were to tell if two matching solid black letters were the same, errors were corrected; 2) same as 1, except the letters were in two tones; 3) same stimuli as in 1, but the lines and curves of the letter were described by the examiner; 4) again, the same stimuli as in 1, but the examiner elicited from the subject a verbal description of the lines, curves, and directions of the letters. Performance on three letter matching tests was the dependent variable. Treatment 4, in which the subject was required to describe orally the lines, curves, and direction of the letters, was significantly superior to the other 3 groups in letter matching. These results are used to amend Gough's model of reading.

HICKS, CAROLYN. The ITPA Visual Sequential Memory Task: an alternative interpretation and the implications for good and poor readers. *British Journal of Educational Psychology*, February 1980, 50, 16-25.

Conducts a series of four studies to determine what the *Illinois Test of Psycholinguistic Abilities* Visual Sequential Memory task (ITPA VSM) measures, what skills are required for adequate task performance, and how good and poor readers differ in these skills. In the first study, 20 children (mean age 9-4) who scored within the average range on the *WISC* and no less than three months below CA on the *Schonell Graded Word Recognition Test* were individually administered the VSM section of the ITPA. Each subject was asked to report his recall strategy on the VSM and performance of subjects who used a verbal labelling code was compared with performance of those who used a visual labelling code. Seven subjects reported a visual strategy and 13, a verbal strategy. The differences in the scores between the two groups was significant with subjects using a verbal labelling strategy recalling more of the visual symbols than those using a visual strategy. The findings suggested that the ITPA VSM task measures verbal encoding ability rather than visual sequential memory. The second experiment suggested that the retention of visual stimuli could be improved by adopting a verbal labelling strategy. In the third experiment, the findings suggested that when verbal labelling was suppressed, the performance of competent readers deteriorated to a level similar to that of poor readers. The results of the fourth study indicated that if retarded readers were instructed to use a verbal labelling strategy, their performance on retaining visual symbols improved significantly. The author concluded that good and poor readers may differ in their ability to employ a verbal labelling strategy rather than with respect to visual memory.

CARTER, DONALD E.; SPERO, A. JUNE; & WALSH, JAMES A. A comparison of the visual aural digit span and the Bender Gestalt as discriminators of low achievement in the primary grades. *Psychology in the Schools*, April 1978, 15, 194-198.

Compares Koppitz's *Visual Auditory Digit Span Test* (VADS) and the *Bender Visual Motor Gestalt Test* in their ability to discriminate low from average achievers in arithmetic skills (math concepts and math problem solving) and reading skills (reading vocabulary and reading comprehension) as measured by the *Iowa Test of Basic Skills*. A sample of 78 normal children, ages 6, 7, and 8, was administered the verbal portion of the *WISC-R*, VADS, the Bender and the Iowa. Covarying on Verbal IQ, the Bender-Gestalt discriminated low achievers (nine months below the expected grade equivalent) from average (all others) in vocabulary, math concepts, and problem solving; the VADS discriminated low from average achievers only for vocabulary and math concepts. Neither discriminated between low and average students on reading comprehension. Coefficients of correlation between age and IQ and the two perceptual tests are also reported.

RUPLEY, WILLIAM H.; ASHE, MICHAEL; & BUCKLAND, PEARL. The relation between the discrimination of letter-like forms and word recognition. *Reading World*, December 1979, 19, 113-123.

Studies the visual discrimination abilities of children who varied in their word recognition ability. First, second, and third-grade pupils in one elementary school were administered the *Wide Range Achievement Test* (WRAT). On the basis of the WRAT scores, subjects were divided into high, average, and low reading groups, and five boys and five girls were then selected at random at each ability level. Final data were obtained on 28 first graders, 29 second graders, and 30 third graders. Subjects were also given the *Otis-Lennon Mental Ability Test - Elementary Level I*, and scores were used as a covariate in the analysis. The discrimination task administered required subjects to match a standard artificial grapheme with an identical form when the identical form was placed with a maximum of 12 transformations of the standard. Errors on the task were classified into six categories. The main effect for grade was significant, but neither word recognition skill nor the grade $\times$ word recognition skill interaction approached significance. The authors state that the implications of the study are that visual discrimination skills of the type needed to discriminate between single artificial graphemes do not appear to be essential for word recognition.

KAK, ANITA, & BROWN, DONALD R. Visual pattern perception: a multidimensional analysis of development of children's reading skills. *Perceptual and Motor Skills*, December 1979, 49, 819-830.

Compares the visual pattern recognition skills of good and poor readers at four grade levels. Stimuli were selected to reflect the major features of the alphabet. There were 12 stimuli: a single line, a single right angle, and a single arc, each presented in four degrees of rotation or directions. The 12 stimuli patterns were combined into the 66 possible pairs and each pair was used to construct 6 three-choice oddity problems, formed by designating one pattern as correct and repeating the other pattern. These patterns were presented on a rear projection screen. Each problem was presented twice. Discrimination latency was the independent variable. On the basis of the *Metropolitan Readiness Tests* or the *Stanford Achievement Test*, six good and six poor readers were selected from each of grades kindergarten, 1, 2, and 3. It was reported that all children had normal intelligence as measured on the *Slosson Intelligence Test*. Data were analyzed with analysis of variance and multidimensional scaling techniques. Good readers were more efficient than poor readers at all four grades. Poor readers became significantly more efficient over time. Also, there was no evidence that relations among the patterns were perceived to be different by poor readers at any age. There was a great deal of similarity across ages and between good and poor readers; no pattern-specific effects discriminated good from poor readers. The authors concluded that the differences between good and poor readers at these ages cannot be attributed to differences in processing spatial information.

DENEKE, R. F.; MCLAUGHLIN, T. F.; & HUNSAKER, DON. Letter recognition in a preschooler: effects of praise and consumable reinforcers. *Reading Improvement*, Summer 1979, 16, 139-141.

Determines if the use of praise and extrinsic reinforcers could increase the letter recognition skills of a preschool girl who was taught by her mother. Baseline and reinforcement data were collected. Praise and reinforcers were more effective than baseline periods when no consequences were introduced.

MIURA, TOSHIKI. The word superiority effect in a case of *Hiragana* letter strings. *Perception and Psychophysics*, December 1978, 24, 505-508.

Compares the ease of recognizing Japanese kana letters in three contexts. Words of four kana letters, anagrams of kana letters (nonwords), and single kana letters were the stimuli. Subjects were ten undergraduate students in Japan. Stimuli were presented on a three-fold tachistoscope for one second, followed by a three second mask and response alternatives. Subjects reported what kana letter they thought they saw. Kana letters were more frequently recognized in words than when presented alone. The compatibility of these results to the results of other studies of English stimuli were discussed.

FRIEDRICH, FRANCES J.; SCHADLER, MARGARET; & JUOLA, JAMES F. Developmental changes in units of processing in reading. *Journal of Experimental Child Psychology*, October 1979, 28, 344-358.

Investigates the development in facility to identify letters, syllables and words in reading normal prose. Three groups of subjects were included: 20 pupils who had completed second grade, 19 who had completed fourth grade and 20 undergraduate psychology students. The children came from predominantly white, middle-class backgrounds. The mean reading score for 16 of the 20 second graders on the *Stanford Achievement Test* (SAT) was 4.2, for all fourth graders it was 6.6. The stimuli were 150 nine-word sentences presented on a rear projection screen. Subjects were to find letters, syllables, words, or superordinate categories (e.g. "A Kind of Animal") in sentences. There was also a control condition of normal reading. Performance was determined by the time needed to find the target, total reading time, search errors and number of comprehension questions correctly answered (one question per sentence). Mean search time was shortest for adults and longest for second graders. Whole words were recognized significantly faster than categories, and the most slowly recognized were letters. Reading rates in the word search condition were nearly the same as normal reading rate. More comprehension errors were made in the syllable search condition. Correlation coefficients between SAT subtests and performance on the search tasks were also reported.

HILL, PATRICIA J. Reversals in reading: are they abnormal? *American Journal of Optometry and Physiological Optics*, March 1980, 57, 162-165.

Examines the prevalence and course of reversal problems from kindergarten through fourth grade. Subjects were 257 children (including some children who were placed in the junior primary grade because of lack of readiness for first grade). Fifty percent were white, 40% were black, and 10% were classified as other. Of the 257 children, 97 were referred to a special class for perceptual and motor training. Included in this referral group were 88% of the kindergarteners, 83% of the junior primary (JP) pupils, 47% of the first graders, 34% of second graders, 16% of third graders, and 2% of fourth graders. Of those referred, the percentages showing reversal tendencies were 63%, 80%, 56%, 53%, 12%, and 0%, respectively, at K, JP, and grades 1, 2, 3, and 4.

ALIOTTI, NICHOLAS C. Tendency to mirror-image on a visual memory test. *Academic Therapy*, January 1980, 15, 261-267.

Tests aspects of the reversal phenomenon by administering a test of immediate visual memory requiring children to select among six alternatives a previously exposed geometric design. Among the alternatives were a mirror-image and a rotation. The *Bannatyne Visual-Spatial Memory Test* was administered to 37 children in private preschools, 116 children in K-2, 19 cerebral palsied children (CA of 5-6 to 15-1), and 16 children in a learning disabilities class (CA of 7-9 to

12-10). There was some tendency for mirror-image reversal choice to represent a fairly common error. For the total sample the percentage of correct matches and error choices were: original match, 45%; mirror-image reversal, 14%; fragmentation, 13%; complication, 11%; rotation, 8%; and simplification, 8%.

COHN, MARVIN, & STRICKER, GEORGE. Reversal errors in strong, average, and weak letter namers. *Journal of Learning Disabilities*, October 1979, 12, 533-537.

Notes the incidence of reversal errors in a letter recognition task presented to first graders and relates skill in this task to overall ability in recognizing letters in an attempt to determine the task's diagnostic value. All first grade pupils in four schools (N = 409) served as subjects. Each subject was shown in a random order and asked to name all letters of the alphabet in both uppercase and lowercase form. In uppercase form, the letters B, D, P, and Q ranked 3, 14, 7, and 8, respectively, in frequency of correct identification. In lower case, the respective ranks were 20, 23, 6, and 26. Lower case reversals to these four letters were examined. Of the errors made in naming the letter p, 35% were reversals; for b and d, about 67% of the errors were reversals; for q, 80% of the errors in naming were reversals. Children were then divided into thirds on the basis of letter naming ability. The poorest group named 15 or fewer letters correctly; the best group, 21 to 25 letters correctly. Analysis indicated that the highest proportion of reversal errors was made by the strong group and the lowest proportion by the weak group. Reversal errors were not found to be commutative. The authors concluded that letter reversal errors were not necessarily indicators of a basic perceptual or cognitive deficit.

FARKAS, MITCHELL S., & SMOTHERGILL, DANIEL W. Configuration and position encoding in children. *Child Development*, June 1979, 50, 519-523.

Examines the process by which children encode stimuli briefly presented in various spatial positions. In both of the experiments conducted, there were 16 different subjects at three grade levels; 1, 3 and 5. In Experiment 1, each subject viewed 40 slides with 1, 2, 3 or 4 dots at various positions on the slide. Half the subjects viewed the slides for 5,000 msec., half for 150 msec. Following the offset of the slide, children were shown a card with one dot and were asked if the dot on it was in the same position as any of the dots on the screen. Preceding this part of the experiment, subjects had been taught how to find spots at various positions by practice with dots placed on cards and overlaid with plastic grids. This was followed by practice with slide presentations of dots. In Experiment 2, the pre-experimental practice was similar. The stimuli for this experiment were 12 slides containing 1, 4, or 8 dots (thus 36 slides), half exposed for 150 msec. and half for 5,000 msec. In Experiment 1, performance improved with grade level for stimulus arrays containing more than one dot. In the second experiment, performance improved with age and decreased with an increase in the number of dots presented. The authors concluded that the processes by which position and configural information are encoded are closely related.

MOHAN, PHILIP J. Acoustic factors in visual detection: a comparison of two reading groups. *The Journal of General Psychology*, January 1979, 100, 129-132.

Compares the performance of 28 adequate and 28 poor readers on a letter cancellation task. Poor readers were at least one year below grade level in reading, the adequate readers no more than one year above. Within each sample, two age groups were formed: young, CA = 7 to 7-3 and older, CA = 11 to 11-4. All subjects were white, lower-middle SES boys. Subjects read silently a story at the appropriate level and were instructed to cross out every letter "e." The data were the proportion of errors ("e not crossed out) in three categories of words 1) where the "e" is

pronounced, 2) where "e" is silent and 3) where the "e" is in "the." There were significantly more errors on the "e" in "the" than the other two categories. There were significant differences between poor and adequate readers and a significant level $\times$ category interaction.

KAK, ANITA V., & BROWN, DONALD R. Schematic concept formation: Psycho-physical analysis of early reading skill. *Perceptual and Motor Skills*, December 1979, 49, 959-970.

Utilizes two studies in viewing the relation between the perception of class structure and reading skill within the context of a schematic concept-formation task. Subjects for Experiment I were 16 kindergarten children, eight good pre-readers and eight poor prereaders or high risk readers. Identification was based on scores on the *Metropolitan Reading Readiness Tests* and teacher judgments. Stimuli were samples of 25 alpha-numeric patterns at each of three levels of inter-pattern similarity and from two classes of pattern elements (A and N). Patterns were arranged into three sets (low, moderate, and high similarity) of 50 each. Children were presented with either an "A" or "N" and responded by pressing either an "A" or "N" key. Time from pattern presentation to response was computed. The experiment was repeated with the same children two weeks later. Better pre-readers performed better than poor prereaders under all conditions. The second experiment used eight good and eight poor first grade readers as identified by Reading Subtest scores on the *SRA Survey Test* and teacher judgments. Patterns were eight-sided polygons. Good readers consistently responded faster than did poor readers under low, moderate, and high similarity conditions.

SCHWORM, RONALD W. The effects of selective attention on the decoding skills of children with learning disabilities. *Journal of Learning Disabilities*, December 1979, 12, 639-644.

Examines the effects on decoding ability of directing disabled readers' attention to spelling patterns in medial positions. There were two experimental treatments and a control group. Subjects were 10- to 11-year-old fourth graders reading one year below grade level. In treatment 1, two strategies were taught: subjects were directed 1) to name the major sounds of 14 spelling patterns, and 2) to attend to the middle of the words when searching for those patterns. In treatment 2, in addition to the first two strategies, subjects were taught to divide a word in two between two consonants or between double consonants. This was to help children to find the middle of a word. The controls participated in other types of reading activities. Subjects were taught these strategies and given appropriate practice over a series of 16 treatment sessions of 20 minutes each. Two tests of 20 words each were developed. One test contained only words with the spelling patterns taught. Words on the second test contained none of the spelling patterns. These tests were administered at the beginning, middle and end of the treatments. The average score for all three groups at the beginning was about 37%. At the end of instruction the two experimental groups scored between 80-95% on both tests, and the scores of the control group were 35-37%. The differences were significant between experimental and control, but not between the two experimental groups.

FORD, BONITA, & BANKS, WILLIAM P. Perceptual differences between reading handwritten and typed words. *Memory and Cognition*, November 1977, 5, 630-635.

Uses a series of three experiments to investigate perceptual differences between reading handwritten and typed words. In the first two studies, the size of the memory set and the form of the probe (typed or handwritten) were varied.

Subjects were college students who were paid to participate. Reaction time to classify handwritten probes was slower than for typed probes, but memory search occurred at the same rate for both probe types. For the third experiment, latencies for naming the two word types differed by the same amount as the overall difference between the same stimuli in the memory search task. The findings suggest that only perceptual processes, and not memory comparison, are differentially affected by the differences between typed and written words.

HEALY, ALICE F. Proofreading errors on the word *the*: new evidence on reading units. *Journal of Experimental Psychology: Human Perception and Performance*, February 1980, 6, 45-57.

Employs, in a series of three experiments, various proofreading tasks and compares proofreading and detection tasks. The same 96 undergraduate students participated in all three experiments. In the first experiment, misspellings were presented by transposing two adjacent letters in a word. In Experiments 2 and 3, prose passages and scrambled nouns were presented with the letter "t" replaced by "z." Letter-detection tasks in which subjects searched for instances of t's in passages without misspellings were compared to the proofreading tasks. In Experiment 2, subjects made a disproportionately larger number of errors on "the" in letter detection than in proofreading. In the third experiment, subjects made more errors on common than on rare nouns in letter detection but not in proofreading.

STEEN, MARCIA, & SOWELL, VIRGINIA. Effects of training in directionality on reversals in reading and writing. *Perceptual and Motor Skills*, February 1980, 50, 219-224.

Conducts a study to determine the effects of training in directionality on word and letter reversals. Subjects were 13 boys and 11 girls attending a summer school remedial program who demonstrated a tendency to reverse letters or words on a pretest constructed by the authors. The control group received the usual remedial program plus an additional 15 minutes of remedial instruction. The experimental group received the usual remedial instruction plus 15 minutes of training in directionality. The program lasted four weeks. The pretest was used as the posttest. There was no significant difference between the two groups.

DERMOTT, R. ALLAN; MCINTIRE, WALTER G.; & ROBERTS, DODD E. Field dependence-independence as predictor of specific reading skills in two first grade reading programs. *Reading Improvement*, Fall 1979, 16, 207-214.

Correlates performance on two measures of field dependence-independence with first grade reading skill performance for children in two first reading programs. The two measures of field dependence-independence were the *Children's Embedded-figures Test* (CEFT) and the *Portable Rod-and-Frame Test* (PRFT). The criterion-referenced tests taken from the *Metropolitan Achievement Tests*, Primary I and II, were used to measure performance on seven reading skills and total reading. There were 221 subjects selected from 21 of 22 first grades. Twelve classrooms used the Alpha One series and nine used two editions of the Harper-Row series supplemented by some phonics training. In a stepwise multiple regression, the highest multiple R found was .35, and of the 30 stepdown f-ratios, only five were significant. The authors concluded that neither measure of field dependence-independence is a particularly robust predictor of specific reading skills.

STANOVICH, KEITH E. Studies of letter identification using qualitative error analysis: effects of speed stress, tachistoscopic presentation, and word context.

Journal of Experimental Psychology: Human Perception and Performance, November 1979, 5, 713-733.

Evaluates the effects of speed stress, tachistoscopic presentations, and word contexts on letter identification. There were four different subjects in each of the four experiments, all were college students. In Experiment 1, subjects named letters under a response deadline chosen so that an appreciable number of errors would be produced. The stimulus confusions were analyzed via the same mathematical models of stimulus recognition that have been applied to the confusion matrices generated in tachistoscopic experiments. Both the Luce choice model and the informed guessing model provided excellent fits to the data. In Experiment 2, a direct comparison was made of the types of errors produced in the data-limited tachistoscopic situation and the resource-limited response deadline situation. It was found that, relative to the response deadline task, identification in the tachistoscopic task was much more likely to be based on partial information. In Experiments 3 and 4, the same research methodology was applied to the problem of the effect of a word context on letter preparation. The methodology allowed this problem to be addressed in the context of both response deadline and tachistoscopic tasks.

SWANSON, LEE. Verbal encoding effects on the visual short-term memory of learning disabled and normal readers. *Journal of Educational Psychology*, August 1978, 70, 530-544.

Investigates the hypothesis that the reading difficulties of learning disabled children are attributable to deficiencies in verbal encoding. Subjects were 30 learning disabled and 30 normal readers averaging in age about 9-5. Learning disabled subjects scored below the 30th percentile on the *Wide Range Achievement Test* and two reading subtests of the *Peabody Individual Achievement Test*. Normal readers scored at grade level or above. Names were assigned that reflected the experimenter's impressions of the shapes. Half of each group of children learned the names of the six shapes, while the other half was given practice in discriminating top and bottom contours. The experimental task was a probe-type serial memory task. The named condition was superior for normal readers. No difference was found in recall of non-verbal (unnamed) stimuli between normal and learning disabled children. The author suggests that reading deficits in learning disabled children are related to verbal encoding limitations, not to deficiencies of visual memory, as suggested by the perceptual deficit hypothesis.

LOVEGROVE, WILLIAM; BILLING, GRAHAM; & SLAGHUIS, WALTER. Processing of visual contour orientation information in normal and disabled reading children. *Cortex*, June 1978, 14, 268-278.

Compares the processing of visual contour orientation information in normal and disabled readers. Subjects in all of the four experiments conducted were 14 disabled readers and 14 matched controls. Matching was done on IQ, as measured by the WISC and reading ability, as measured by the *Neale Analysis of Reading Ability*, the *Schonell Diagnostic Attainment Reading Test* and the *Word Recognition Test*. The disabled readers were at least 2.5 years below grade level in reading. The average age of both groups was 9-8. Stimuli for the four experiments were lines presented in various formats and at various orientations on a three-field Scientific Prototype tachistoscope. On the first two experiments, reading disabled students had significantly longer visual information store durations than controls, and Experiment 4 results indicated that good and poor readers also differed in their processing of information in the visual cortex.

JACEWICZ, MARION M. Word context effects on letter recognition. *Perceptual and Motor Skills*, June 1979, 48, 935-942.

Measures subjects' ability to determine the presence of specified target letters during tachistoscopic exposure when the letters were clearly sounded in a word and when the letters were not sounded or had an unusual sound. Subjects were 24 undergraduates, ranging in age from 18 to 44. Six of the 24 were bilingual in Spanish and English. Stimuli were 60 five-letter words, each presented on a single card. Before presenting the stimuli, subjects were given a target letter and asked to determine if that letter was in the word. Words were unmasked and exposed 50 msec. The dependent measure was the interval between stimulus presentation and voice response of "yes" or "no." The presence of the target letter was faster when clearly sounded in a word. This result was interpreted as evidence that a word is recognized as a whole before its component parts are analyzed and that the transformation of the word from visual to acoustic code occurs before the analysis of the individual letters.

TODD, JAMES T., & VANGELDER, PETER. Implications of a transient-sustained dichotomy for the measurement of human performance. *Journal of Experimental Psychology: Human Perception and Performance*, November 1979, 5, 625-638.

Examines the relative effects of onset and no-onset presentations in a variety of experimental tasks. There were three to six college students in each of the five experiments conducted. In the first three experiments, subjects had to find a target (out of two or eight alternatives) on a horizontal line displayed on a CRT screen. The targets were 2.5°, 5°, 7.5° or 10° on either side of the fixation triangle. In some instances, the fixation triangle was shown, wiped away and the target shown (onset condition). The subject was then to move his eyes to the target. In other instances, all eight (or two) targets were displayed, and then seven (or one) were wiped away (no-onset condition). In Experiment 2 the no-onset conditions were varied, and in Experiment 3 the frequency of the position of the target stimuli was varied. In Experiments 4 and 5, two different target stimuli could appear at each position and subjects had to press a button to identify the target. Eye movement reaction time (RI) was the dependent variable. Reaction time (RT) was significantly more rapid in onset than no-onset conditions. Responses to no-onset stimuli were more greatly affected by target displacement than response to onset stimuli. The offset of the distractor elements in a no-onset presentation facilitated performance. Responses to no-onset stimuli were more greatly affected by a displacement cue than responses to onset stimuli. The differences in RT between responses to onset and no-onset stimuli increased significantly with task complexity, though the relative differences in the effect of target displacement for onset and no-onset stimuli were unaffected by task complexity.

PODGORNY, PATER, & GARNER, W. R. Reaction time as a measure of inter- and intraobject visual similarity: letters of the alphabet. *Perception & Psychophysics*, July 1979, 26, 37-52.

Utilizes reaction time required to indicate two letters are the same or different as a graded scale for measuring and defining the visual similarity of pairs of objects. In Experiment I, the validity of reaction time as a measure of visual similarity was tested by comparing a reaction time matrix based on speeded "same" "different" judgements and a matrix based on subjects' ratings of the visual similarity of objects. Subjects were 30 paid Yale students or staff. The stimuli were the 26 uppercase letters of the alphabet, each contrasted with the other three times. To measure reaction times, stimuli were presented on a Digital Equipment Corporation VT-50 video terminal controlled by a PDP-11 computer. To measure ratings, each

combination of letters (i.e., 650) was displayed on the VT-50 screen and subjects rated their similarity on a scale of 1 to 5. Experiment 2, using 10 different subjects who participated for course credit, evaluated 1) whether the similarity of an object to itself is greater than its similarity to any other object and 2) whether all measures of intraobject similarity are necessarily greater than any measure of interobject similarity. Procedures were similar to Experiment 1, except the only stimuli were the letters HMNW and CDOQ. Results indicate that: reaction times do correlate with ratings of visual similarity, all letters are not equally similar to themselves as the reaction time for "same" letters are not all equal and each letter is more similar to itself than any other letter. Results are discussed in terms of assumed proximity constraints underlying similarity data.

MILLOY, DOUGLAS G. Comment on recognition and confusion of the lowercase alphabet. *Perception and Psychophysics*, August 1978, 24, 190-191.

Criticizes a previous analysis of a full alphabet confusion matrix for lowercase letters in foveal vision.

HEATH, EARL J.; COOK, PATRICIA; & O'DELL, NANCY. Eye exercises and reading efficiency. *Journal of Optometric Vision Development*, September 1978, 9, 16-27.

Investigates the influence of ocular-motor proficiency on academic skills and determines the selection of the most advantageous approach to the development of ocular-motor proficiency. The final sample consisted of 68 second- and third-grade children who were administered the *Metropolitan Achievement Text* (MAT) Reading, and the ocular-pursuit subtest of the *Purdue Motor Survey* (PMS). All subjects scored below the fortieth percentile in reading and in the deficient range on the ocular-motor exam. Children were randomly assigned to one of four groups: 1) Group 1 received proprioceptively involved facilitating exercises; 2) Group 2 was assigned exercises using a motor approach but with no proprioceptive feedback except from the eyes themselves; 3) Group 3 was given non-motoric, perceptual exercises; 4) Group 4 was a control group and received no special exercises. At the end of ten weeks all groups were retested on the ocular-pursuit task and an alternate form of the MAT. In addition, an eye-tracking recording was made. Group 1 showed significantly higher ocular control gains than all other groups ($<.01$). On reading gain scores, Group 1 scored significantly higher than Group 4 ($<.03$), but the differences between Group 1 and the other groups was not significant.

PHILPOTT, ADRIAN, & WILDING, JOHN. Semantic interference from subliminal stimuli in a dichoptic viewing situation. *British Journal of Psychology*, November 1979, 70, 559-563.

Presents data from two experiments investigating the effect of a simultaneous subliminal stimulus upon the latency of naming a supraliminal stimulus. In the first experiment, 12 subjects were used. They were presented with shapes, colors, or words to one eye while words or shapes were presented subliminally to the other eye. Within the combinations of stimuli presented, four types of semantic relations between primary and secondary stimuli were used: synonymous, conflicting, abstract, and no secondary stimulus. Subliminal stimuli were found to slow naming responses when they had the same name as the stimulus to be named or a closely related name, compared with random letter strings or blank cards. The findings were replicated in the second experiment which included unrelated words as subliminal stimuli. The results suggest that stimuli related in meaning compete for common analyzing mechanisms.

CARROLL, JULIA A.; FULLER, GERALD B.; & CARROLL, JAMES L. Comparison of culturally deprived school achievers and underachievers on memory function and perception. *Perceptual and Motor Skills*, February 1979, 48, 59-62.

Examines differences between culturally deprived achievers (N=18) and underachievers (N=18) on tests of visual-motor, spatial relationships, auditory recall, and visual memory. Scores on the Reading, Spelling, and Arithmetic sections of the *Wide Range Achievement Test* (WRAT) were used to determine underachievers (six months or more below expected grade level) and achievers (five months or less below expected level). In addition to the WRAT, subjects were given the *Peabody Picture Vocabulary Test*, the Block Design subtest of the WISC, the *Minnesota Percepto-Diagnostic Test*, and the *Memory-for-Designs Test*. A significant difference was found between the two groups on the Minnesota Percepto Diagnostic Test only with achievers performing better than underachievers. The author hypothesizes that the differences are a function of the level of motor execution.

KOWLER, EILEEN, & SPERLING, GEORGE. Transient stimulation does not aid visual search: implications for the role of saccades. *Perception & Psychophysics*, January 1980, 27, 1-10.

Designs several experiments intended to investigate the importance of onsets in visual information processing. To find out if performance is the same with displays that contain one onset (briefly flashed and continuously visible displays) at many different presentation times, performance was compared of briefly flashed displays followed by a variable interval of darkness to performance with displays that remained visible during the entire interval. To find out if performance with displays containing a second onset was improved, performance with displays containing two onsets was compared with displays containing only one. To find out if the second onset must appear at a different retinal location from the first in order to be effective, performance with two-flash presentations in which both appeared in the same location was compared with performance when the second flash was displaced relative to the first. Two adult subjects, including one of the authors, were tested. Stimuli were displays of alphanumeric characters. Performance with continuous presentations was better than performance with single-flash presentations for times longer than 100 msec. Two flashes, containing two onsets, did not produce better performance than continuous presentations containing one onset. Displacements did not improve performance for either the two-flash or the continuous presentations. The findings demonstrated that abrupt onsets and displacements do not improve information acquisition with displays of alphanumeric characters. Performance was best when displays contained only one onset and remained continuously visible and stationary. The findings were related to reports of findings from previous research and suggested that saccade-like retinal image motion does not contribute either to the maintenance of target visibility or to visual acuity.

RAYNER, KEITH; MCCONKIE, GEORGE W.; & EHRLICH, SUSAN. Eye movements and integrating information across fixations. *Journal of Experimental Psychology: Human Perception and Performance*, November 1978, 4, 529-544.

Reports the results of a series of three experiments designed to measure the effects of parafoveal vision on subsequent foveal vision. The three authors served as subjects in a design that provided complete replication of the first two experiments within the study itself. Thirty base words were used in conjunction with five types of words or letter strings that served as the initially presented stimulus. These stimuli were presented on a cathode-ray tube interfaced with a computer programmed to record the following times: a) from initial stimulus onset until

saccade initiation, b) saccade duration, and c) from saccade-termination until voice initiation in naming the base word. The results of the first experiment demonstrated that parafoveal vision can significantly facilitate the naming of a visually similar word that later appears in foveal vision. Experiments 2 and 3 were conducted to test refined hypotheses regarding more complex initial stimulus conditions. Major findings of the subsequent experiments were consistent with those of the first or base study.

ELLS, JERRY G., & DEWAR, ROBERT E. Rapid comprehension of verbal and symbolic traffic sign messages. *Human Factors*, April 1979, 21, 161-168.

Investigates the reaction times necessary to comprehend the meaning of slides projecting both verbal and symbolic traffic signs. The first investigation utilized 12 college students as subjects in a same-different reaction time procedure designed to test mean reaction times of "yes" and "no" responses to traffic signs as a function of sign type and message type. Experiment two utilized 24 college students in an analysis of variance design to compare comprehension times of verbal and symbolic signs under normal vision and degraded vision. The results of both experiments supported the hypothesis that currently used symbolic message signs yielded faster comprehension times. A greater decrement in recognition efficiency occurred for the verbal signs under a visual degradation condition.

IV-7 Auditory perception and reading

RICHARDSON, ELLIS; DiBENEDETTO, BARBARA; & BRADLEY, C. MICHAEL. The relationship of sound blending to reading achievement. *Review of Educational Research*, Spring 1977, 47, 319-334.

Examines the literature on auditory skills to note the relationship of sound-blending skill and reading achievement. The authors concluded that the research supports the notion that sound blending is related to reading achievement.

HARBER, JEAN R. Are auditory perceptual skills requisite for reading success? *Reading World*, March 1980, 19, 272-279.

Correlates performance on auditory perceptual tasks with performance on reading tasks of 76 learning disabled students. The average age of the students was 8-5, with a range of 6-0 to 10-0. Average IQ was 94. The auditory perceptual tests administered were the Sound Blending and Auditory Closure subtests of the *Illinois Test of Psycholinguistic Abilities*. The reading tests given were subtests from the *Durrell Analysis of Reading Difficulty*: Word Analysis, Oral Reading, and Silent Reading. Second order correlation coefficients were calculated, eliminating IQ and age. Five of the six correlation coefficients were significant, but the highest was only .35 (Auditory Closure and Word Analysis). The findings indicated relatively small relationships between the variables.

BAILEY, TERENCE J. Effects of auditory perception training on reading achievement. *Journal of Research and Reading*, February 1979, 2, 24-43.

Explores the effect of a systematic training program designed to improve four auditory subskills in poor readers and also determines the effect on reading scores. Subjects were 30 first- and second-year junior school children, ages seven to nine, who had a Reading Age of 7.2 years or below on the *Schonell Graded Word Recognition Test* and who failed on one or more of a battery of auditory perceptual tests. Children were assigned randomly to one of three groups: experimental, comparison, control. Experimentals received a nine-hour taped program designed to

teach auditory discrimination, auditory memory, auditory analysis and synthesis, and auditory-visual integration. The comparison group listened to stories on tape. Subjects were pre- and posttested with the Schonell, the *Neale Analysis of Reading Ability*, the *Southgate Group Reading Test 2* (Silent Comprehension), the *English Picture Vocabulary Test*, and a battery of various auditory perception tests including ones for each skill taught. Although the training program significantly improved performance of the experimentals over the other groups on the total auditory perception test, the program improved skills on rhyming, blending and closure, but not in auditory memory, analysis and auditory-visual integration. No significant differences were found between groups on the various reading measures.

KLEIN, PNINA S., & SCHWARTZ, ALLEN A. Effects of training auditory sequential memory and attention on reading. *The Journal of Special Education*, Winter 1979, 13, 365-374.

Seeks to improve auditory sequential memory (ASM) through training and to note the effect on reading achievement. A total of 92 grade two and three pupils who were reading at least one year below grade level and who scored below average on two ASM measures were included. Subjects were screened on the basis of scores on the *Gilmore Oral Reading Test*, the Digit Span subtest of the WISC-R, and the ASM test from the *Illinois Test of Psycholinguistic Abilities*. Given at a second testing were: the *Peabody Picture Vocabulary Test*, the Coding subtest of the WISC-R, the *Wepman Auditory Discrimination Test*, the *Knox Cube Test*, the *Hiskey-Nebraska Test* of visual sequential memory for digits, and the Arithmetic test of the *Wide Range Achievement Test*. Subjects were then assigned at random to one of four groups: ASM, the Attention group, the Cognitive Enrichment group, and the Standing Control group. Training occurred in half-hour sessions three times a week for 25 sessions. A behavior modification model was used in Groups 1, 2, and 3. Following training, all groups were posttested on all screening and pretest measures. Subjects in the ASM group obtained the highest digit span scores as compared with other groups. The ASM digit span scores were significantly higher than those of the Cognitive and Control groups, but not those of the Attention group. Reading accuracy scores of the ASM group were significantly higher than those of the Attention and Control groups, but not significantly higher than those of the Cognitive group. No significant differences were found among groups for reading comprehension scores.

ROBERTS, TESSA. Auditory blending in the early stages of reading. *Educational Research*, November 1979, 22, 49-53.

Examines the ability of five-year-olds in auditory synthesis and views sex differences in this skill. In all, 90 boys and 78 girls from six different British Infant Schools were tested by having an examiner pronounce each sound in a list of words and then having the child pronounce the word. Each child was tested on two 10-word lists, randomly selected from five lists. A bi-modal distribution of scores was obtained, suggesting that children either could or could not do the task. Most of the children were unable to perform the auditory synthesis task. However, differences were found between schools in performance. Sex was not found to be an important factor.

MCCROSKEY, ROBERT L., & KIDDER, HERMAN C. Auditory fusion among learning disabled, reading disabled, and normal children. *Journal of Learning Disabilities*, February 1980, 13, 69-76.

Compares the auditory fusion of normal children with two groups of exceptional children, those with learning disabilities and those with reading disabilities. There was a total of 135 subjects, 45 children at each age level of 7, 8, and 9.

For each age level, there were 15 normal, 15 learning disabled and 15 reading disabled students. All pupils' hearing had been screened by pure-tone audiometry. The IQ scores of all children were reported to be between 90 and 110. Children were asked to indicate whether they heard one or two sounds when presented with 270 separate pairs of tones. Each pair consisted of two tones separated by a silent interval which varied from 0 to 400 msec. The frequencies of the tones that comprised the pairs were 250 through 4,000 Hz at one octave intervals. These stimuli were presented at three sensation levels: 20, 40, and 60 dB. The results indicate that normal children experience auditory fusion at shorter time intervals than reading disabled or learning disabled children, that signal intensity affects auditory fusion for all groups, and that only the learning disabled children are differentially affected by the frequency (hertz) of the stimulus tones. It is speculated that early determination and comparison of a child's auditory fusion with established norms may provide a technique for the early detection of children who will exhibit learning disabilities when they reach school age.

BLACK, JOHN W.; DEAL, LEO V.; SINGH, SADANAND; & TOLHURST, G. C. Clues to aural discrimination. *Journal of Psycholinguistic Research*, July 1979, 8, 343-351.

Examines the importance of four variables to the auditory discriminability of one word in a group of four similar sounding words. The authors assembled 1,224 clusters of four words: "stun," "stung," "sung," "stunned." One word of each randomly ordered group had been spoken by ten speakers; the other three words were the most frequent error responses made by nearly 200 listeners. These four words were the multiple-choice intelligibility tests. Each word of a cluster was a stimulus once and a response three times. The words were systematically rotated when presented to listeners. The average intelligibility of a word was the proportion of times it was identified correctly. The intelligibility was then examined vis-a-vis four variables: 1) apparent aural similarity of the words as rated by a panel of judges, 2) the average number of prevocalic consonants or consonant clusters in a cluster, 3) the number of phonemic discrepancies (the number of sounds by which two words differ) within each cluster and 4) the summative difference in distinctive features between the words. Data were analyzed by regression procedures. The strongest contributors to intelligibility were apparent aural similarity and phonemic discrepancies. All four variables contributed approximately 25% to 45% of the variance to the discrimination scores.

STRANGE, WINIFRED; EDMAN, THOMAS R.; & JENKINS, JAMES J. Acoustic and phonological factors in vowel identification. *Journal of Experimental Psychology: Human Perception and Performance*, November 1979, 5, 643-656.

Studies the perception of vowel sounds in isolation and in consonantal, syllabic context. The stimuli for this study were the nine English vowels (v) pronounced in isolation and in each of six syllabic forms: /b/-v/-b/, v/-b/, /b/-v/, /p/-v/-p/, v/-p/, and /p/-v. Three adult male and three adult female talkers produced these stimuli in a sound attenuated room by reading them from cards into a Shure omnidirectional dynamic microphone and Revox tape recorder. The subjects, 170 undergraduates, listened to these sounds played back in random order. Their task was to identify the vowels. Considerable practice was given before the actual experiment commenced. Vowels were better identified in a consonantal syllabic context than in isolation. Final consonants aided vowel identification more than initial consonants. These findings are contrary to the predictions of traditional theories of vowel perception. The findings were attributed to a possible lack of dynamic acoustic cues or to familiarity effects related to the phonological rules of English.

IV-8 Reading and language abilities

EHRI, LINNEA C. Linguistic insight: threshold of reading acquisition. In T. Gary Waller & G. E. MacKinnon (Eds.) *Reading research: advances in theory and practice*, (Vol. 1). New York: Academic Press, 1979. Pp. 63-114.

Considers the development of various linguistic insights about written and spoken language and reviews and evaluates evidence for their emergence and their relationship to reading acquisition.

CHAPMAN, L. JOHN. Some influences of semantics on reading development. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977. Pp. 81-90.

Selectively draws upon general linguistic theory, research, and example to describe ways in which a study of semantics can contribute to our understanding of reading, and, in particular, to the exploration of developmental acquisition of conceptual meaning with its implications for education.

MARINO, JACQUELINE L. Discourse analysis: a primer for classroom teachers. *Reading World*, March 1980, 19, 246-253.

Describes four research procedures commonly used to describe the content and structure of text: T-unit analysis, propositional representation, story grammars, and primary trait scoring. The discussion critically summarizes these four procedures with regard to purpose, methodology, research, and implications for instruction.

TUMAN, MYRON C. A comparative review of reading and listening comprehension. *Journal of Reading*, May 1980, 23, 698-704.

Attempts to define the issues involved in reading and listening comprehension, and surveys the major literature concerning the relationship between listening and reading comprehension.

DEVINE, THOMAS G. Reading and listening. In Vincent Greaney (Ed.) *Studies in Reading*. Dublin: The Educational Co., 1977. pp. 78-83.

Includes, in a discussion of reading and listening, citations to research on the relationship between the two.

DILLINGOFSKI, MARY SUE. Sociolinguistics and reading: a review of the literature. *The Reading Teacher*, December 1979, 33, 307-312.

Summarizes the literature on children's language and reading.

GROFF, PATRICK. Goodman and his critics. *Reading World*, May 1979, 18, 376-383.

Cites several recent reactions to Goodman's views of reading and critiques one of these at length.

SHANAHAN, TIMOTHY. The impact of writing instruction on learning to read. *Reading World*, May 1980, 19, 357-368.

Reviews research literature concerning the relationship of learning to read and learning to write.

BEGY, GERALD L., & CAHILL, KATHY. The ability of kindergarten children having completed a modified rebus reading readiness program to segment oral language into words. *Reading World*, October 1978, 18, 27-32.

Determines if kindergarteners exposed to a Modified Rebus Reading Readiness Program are better able to segment oral language into words than a control group in a traditional readiness program. Subjects were selected randomly from among pupils who scored above a criterion level of 180 points on the *Readiness Survey* and totaled 25 in each group. Each subject was individually tested in May of the kindergarten year using 15 sentences presented orally. Subjects were to tell the number of words in each sentence and to name them individually. The subjects who had completed the 11 rebus lessons were significantly better at segmenting oral language than were controls.

CEPRANO, MARIA A. Paradigmatic responding as a predictor of first grade reading achievement. In Walter T. Petty & Patrick J. Finn (Eds.) *From childhood through adolescence: what is basic in language arts. Fifth Annual Conference on Language Arts*, (Conference Report No. 5), State University of New York at Buffalo, 1980, Pp. 23-27.

Evaluates the predictive ability of paradigmatic performance on a word association test administered at the end of kindergarten for reading achievement of the end of the first grade. Subjects were 37 randomly selected kindergarteners from a suburban-rural school in Western New York. The kindergarteners were given a 26 item Syntagmatic-Paradigmatic Assessment (SPA) containing 13 verbs and 13 adjectives. Paradigmatic responses received a score of one point, all other responses were scored as zero. First grade reading achievement measures were: *The Gates-MacGinitie Reading Tests*, the *Slosson Oral Reading Test* and the *Gray Oral Reading Test*. The average SPA score was 2.8 and the standard deviation was 3.9. The correlations between SPA and the various reading scores ranged from $-.09$ to $+.06$: None were significant.

WENDELIN, KARLA HAWKINS. Critical picture of comprehension skills and the child's sense of story. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 91-94.

Uses a wordless picture book in attempting to evaluate kindergarten children's critical picture comprehension skills. The 167 kindergarteners were presented with the book to look through and then asked to tell a story as they looked at the pictures. Responses were taped and analyzed against a content scale developed by the author. A score of ten was possible on the scale; mean score attained was 4.37. Three different styles of story telling were utilized by children: 1) labeling, in which a word or a phrase was used to label an object; 2) conversational, in which children would string ideas together with connectives; and 3) book language, the most sophisticated and formalized of the three. About 64% of the language samples fell into the conversational category, 15% were classified as labeling, and 20% were identified as book language. The book language group had significantly higher scores on the literary content scale than did the other two groups ($<.01$), and the conversational group scored significantly higher ($<.01$) than did the labeling group.

BARNITZ, JOHN G. Syntactic effects on the reading comprehension of pronoun-referent structures by children in grades two, four and six. *Reading Research Quarterly*, 1980, 15(2), 268-289.

Focuses upon the development of comprehension of structures with the pronoun "it" in second, fourth, and sixth graders. Three linguistic comparisons were made: 1) between structures involving two pronoun-referent types, one in which the pronoun refers to a noun, and one in which it refers to a clause or sentence; 2) between two reference orders, one in which the pronoun follows its

referent, and one in which the pronoun precedes its referent; and 3) between referent distance, one in which the pronoun and referent are in the same sentence, and one where they are in separate sentences. Target passages incorporating these features were constructed. Each passage was followed by questions based on the target structure. The number of subjects used included 55 second graders, 67 fourth graders, and 69 sixth graders. Noun phrase pronominal structures were easier to comprehend than sentential pronominals. Structures with forward reference were easier to comprehend than those with backward reference. No significant difference was found between intra-sentential and inter-sentential structures. The author presents a hierarchy of acquisition of reading comprehension for the various pronoun-referent sentences.

HAMILL, DONALD D., & MCNUTT, GAYE. Language abilities and reading: a review of the literature on their relationship. *The Elementary School Journal*, May 1980, 80, 269-277.

Presents a synthesis of research on the relationships of listening, speaking, and writing to reading.

BARNITZ, JOHN G. Developing sentence comprehension in reading. *Language Arts*, November/December 1979, 56, 902-908, 958.

Synthesizes selected research on syntax, reading, and linguistic theory to arrive at implications for teaching comprehension in context.

DAY, KAAREN C., & DAY, H. D. Development of kindergarten children's understanding of concepts about print and oral language. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 19-22.

Kindergarteners' oral language performance and their knowledge about printed language were assessed during the kindergarten year in November, January, and March. Oral language performance was assessed with the *Record of Oral Language* (ROL), Levels Sentences. ROL assesses linguistic abilities by requiring children to repeat sentences of increasing linguistic difficulty after they have been read by the interviewer. Knowledge of print related concepts was measured with Clay's *Concepts About Print Test* (CAP). CAP consists of children's picture book that is read by the interviewer. During reading, 24 questions are asked about such concepts as directionality, differences between letters and words, and use of punctuation. Subjects were 56 kindergarteners from a north central Texas school district. Scores on both the ROL and the CAP increased significantly over the year, though the gains were small and pupils still had less than half the items of each test correct. The authors followed up at the beginning of first grade with 51 of the children and found their scores on CAP at that time gained only five points (this was significant, however). The authors question the concepts assessed with CAP, as these subjects scored only a little over 50% on the test.

DOWNING, JOHN; AYERS, DOUGLAS; & SCHAEFER, BRIAN. Conceptual and perceptual factors in learning to read. *Educational Research*, November 1978, 21, 11-19.

Reports the results of a structured interview conducted with 310 kindergarteners. The structured interview was conducted by 140 undergraduate education students, and each interview took 20-30 minutes. The interview had four parts: I) Recognition of acts of reading and writing; II) Concepts of the purposes of reading and writing; III) Concepts of features of printed materials; IV) Visual perception (similar to one part of the Frostig Test). Most children achieved near

perfect scores on Part IV. Part I was slightly more difficult and Part III was the most difficult of all. It was concluded that teachers should be more concerned about the development of these linguistic concepts than visual perception.

JOHNS, JERRY L. The growth of children's knowledge about spoken words. *Reading Psychology*, Spring 1980, 1, 103-110.

Explores the relationship between children's awareness of spoken words and reading achievement. Subjects were a total of 65 children from kindergarten, first, second, and third grades. In April, children were presented with five examples of eight classes of auditory stimuli and were to indicate whether or not each example was a word. A year later, reading achievement levels were assigned according to the basal reader the child was then using. Responses to the auditory stimulus were similar except for short words, long words, phrases, and sentences. Children ages 6.6-8.0 performed better on all these tasks than did younger children except for long words. Children in the 8.1-9.5 age group were consistently higher in their performance in all these categories than were younger children. However, all children performed poorly on phonemes and syllables. Of children in the 5.6-6.5 age group, only 44% were able to identify short words consistently, and only 28% were able to identify long words consistently. Significant relationships were noted between recognition of words and basal reader level attained up to age eight.

BLUM, IRENE H.; TAYLOR, NANCY E.; & BLUM, ROBERT A. Methodological considerations and developmental trends in children's awareness of word boundaries. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 33-38.

Investigates kindergarteners' and first graders' awareness of interword space (word boundaries). Fifty-four first graders and 47 kindergarteners randomly selected from two public schools served in the study. Children were shown one sentence containing nine words printed in manuscript. They were to count the number of words and then circle each word. Testing was done at two month intervals from September through June. Of the 54 first graders, a subset of 27 was selected on the basis of the *Metropolitan Readiness Tests* and the *BET Written Language Awareness Test*. Fifteen scored in the midrange on both measures and 12 scored in the low range. For both grades, the most common error was combining two words. The results indicate that by June of first grade, nearly all children performed perfectly on the word boundary task, even the group identified as having low readiness. The authors question the word boundary developmental sequences hypothesized by previous research findings and state that efforts to isolate qualitative differences that characterize stages of clarity experienced by all children may be futile.

TOVEY, DUANE R. Children's grasp of phonics terms vs. sound-symbol relationships. *The Reading Teacher*, January 1980, 33, 431-437.

Explores the questions of whether children understand phonic terms well enough to define them or give an example, and whether the learning of the sound-symbol relations is dependent upon explicit knowledge of the common phonic terms. Subjects were five children from each of grades two through six. The writer conducted interviews with each subject. First, subjects were asked to define 19 common phonic terms (e.g., consonant, consonant blend, silent letter, plural, suffix). Next, a phonics test constructed by the writer was administered. One part of the test required students to read aloud nonsense words containing examples of 12 of the 19 terms. A second part required students to underline or

add word parts that matched the remaining seven terms. In general, it was found that children had a poor grasp of phonic terms, and a better grasp of applied phonics. On the 19 item terminology questionnaire, the average score for each grade ranged from 7% to 33% correct. On the phonics test, however, average score for each grade ranged from 55% to 83% correct. The author concluded that learning the grapheme-phoneme relationships is both easier and not dependent upon the explicit knowledge of phonic terms.

LOVETT, MAUREEN W. The selective encoding of sentential information in normal reading development. *Child Development*, September 1979, 50, 897-900.

Assesses the encoding strategies of grade one and two children in reading connected discourse. Eighty children were selected from four first grade and four second grade classes to represent four levels of increasing reading competence across the two grade levels. Allocation to reading level was determined by performance on the *Durrell Analysis of Reading Difficulty*. Subjects were presented with a short passage to read in which one of the embedded sentences was a target sentence. Following each passage, children were then given one of four test sentences. The sentences represented four conditions in relation to the embedded sentence: semantic change, syntactic change, lexical change, and no-change. Decoding errors, reading time, recognition judgment, and comments relating to the judgment were recorded separately for each test trial. Subjects were able to recognize semantic change about 73% of the time and syntactic changes 52% of the time. Lexical changes were recognized just under 30% of the time, while identical sentences were recognized with almost 87% accuracy. Semantically significant information was well retained even when 60 syllables of story intervened between target and test-sentence presentation. Children in both grades and at each level of reading ability were equally accurate in their recognition judgments.

KAK, ANITA V. Schemata: its role in the early reading process of children. *Reading World*, March 1980, 19, 295-302.

Compares the performance of 12 boys and four girls, ages 5 to 6, and classified as good and poor prereaders on the basis of the *Metropolitan Reading Readiness Tests* and teacher judgment in a schematic concept formation task involving classification and processing of alpha-numeric characters. Good prereaders performed better on all conditions.

EVANS, RONALD V. The relationship between the reading and writing of syntactic structure. *Research in the Teaching of English*, May 1979, 13, 129-135.

Examines the relationship between reading comprehension and the production of written structures in 90 randomly selected subjects, 30 each from grades eight, twelve, and sixteen. Nine published prose passages were rewritten to reflect three levels of transformational syntactic difficulty. Subjects cloze read the passages and rewrote a simplified paragraph to directions to improve its form. Overall, an inverse relationship obtained between subjects' written syntactic complexity (nominalization, subordination, and T-unit word length) and cloze scores. Significant increase in the complexity of subject writing occurred across grade levels but cloze scores showed an overall decline across grade.

HENRY, G. The relation between linguistic factors identified by a principal components analysis of written style and reading comprehension as measured by cloze tests. *Journal of Research in Reading*, September 1979, 2, 120-128.

Employs a survey of the literature to identify 25 linguistic features of written style to be used in a principal components factor analysis. Approximately 900 subjects at each of three school levels (five-six; eight-nine, and eleven-twelve)

collectively were administered every-fifth word cloze tests over 60 passages drawn from instructional materials, grades two through twelve. Regressing factor scores on cloze results revealed the underlying linguistic structure as complex. Three factors accounting for 55% of the total variance were, in order of size, a word related content factor, syntactical complexity, and redundancy. Semantic content was the main source of difficulty for younger subjects. Older subjects made better use of redundancy cues.

MOSELEY, CAROLINE, & MOSELEY, DAVID. *Language and reading among under achievers: a practical review of research*. Atlantic Highlands, New Jersey: Humanities Press (USA distributors), 1977.

Purports to introduce readers to the academic literature of the more specialized aspects of reading and language development.

ULIJN, JAN. Foreign language reading research: recent trends and future prospects. *Journal of Research in Reading*, February 1980, 3, 17-37.

Reviews research done in the 1970's on the graphic, morphological, syntactic, textual, and semantic levels in reading. Comparisons are made with first language research and some speculations are offered on future developments which may result in more efficient teaching programs and test devices in foreign language reading.

NEWCOMER, PHYLLIS L., & MAGEE, PATRICIA. Predictive indices of reading failure in learning disabled children. *Educational Research Quarterly*, Summer 1977, 2, 17-23.

Examines the importance of including a measure of oral language in programs designed to provide early identification of children who are apt to experience difficulty in the acquisition of academic skills. Subjects were 22 Learning Disabled pupils in the first and second grades, ages 6-10 to 8-10. Average WISC IQ was 99, with a range from 88 to 113. The *Murphy-Durrell Reading Readiness Test* was given to all children prior to entering first grade. The *Test of Language Development* was administered toward the end of the first or second grade. A significant number of learning disabled pupils did not score in the "high risk" category on the reading readiness test nor did they evidence deficits in one or more aspects of oral language.

BERNDT, LORNA, & HOGE, ROBERT D. Relations among reading ability, reading mode, and recognition memory. *Canadian Journal of Behavioral Science*, July 1979, 11, 252-255.

Examines the role of syntactic and semantic elements in the process of sentence memory. The study measures the sentence memory of good and poor readers reading orally or silently. The materials presented were 8 three-sentence acquisition stories followed by four recognition or test sentences: 1) a true premise, a sentence that was identical to an acquisition sentence; 2) a false premise, a sentence that involved a semantic difference from an acquisition sentence; 3) a true inference, a sentence that was semantically consistent with an acquisition sentence but differed in terms of a structural feature; and 4) a false inference, a sentence that involved both a syntactic and structural variation on an acquisition sentence. On the basis of a median split of scores on the *Profiles Reading Test*, the 69 second grade subjects were divided into groups of 33 poor readers and 36 good readers. Subjects either read silently or orally the three acquisition sentences, performed an interviewing task, and then were presented the recognition sentences. Silent readers and poor readers made more recognition errors than oral readers and good readers, respectively. There was also a significant difference in the sentence type selected. Poor readers made more errors on false inference and false premise sentences. For

three of the four sentence types (excluding true inference), more errors were made during silent reading than during oral reading. The results are interpreted in terms of other similar research.

ARAM, DOROTHY M., & NATION, JAMES F. Preschool language disorders and subsequent academic difficulties. *Journal of Communication Disorders*, March 1980, 13, 159-170.

Presents the results of a follow-up study of children diagnosed as language disordered when they were pre-schoolers. Of 515 children diagnosed during 1973-74, 115 were found in 1977, and 63 agreed to participate in the study. There were 42 males and 21 females. The mean age at diagnosis had been 32 months, ranging from 8 to 60 months. Three sources of information were used: the clinical file obtained at the time of diagnosis, a follow-up parent questionnaire, and a follow-up school questionnaire. Some achievement test data were taken from school folders, but the tests and levels varied from child to child. At follow-up, approximately 40% of the children continued to present speech and language problems, and approximately 40% presented other learning problems. Preschool levels of language comprehension, formulation, semantics, syntax, phonology, and speech production were found to be moderately correlated to subsequent class placement in the elementary grades. Duration of preschool therapy was not related to either the severity of preschool language disorder or to any subsequent speech, language, or academic abilities. Duration of school therapy was related to severity of phonologic deficit as rated during the preschool years and to all follow-up ratings for speech, language, and academic abilities.

DALGLEISH, B. W. J., & ENKELMANN, SUSAN. The interpretation of pronominal reference by retarded and normal readers. *British Journal of Educational Psychology*, November 1979, 49, 290-296.

Compares the interpretation of pronominal references of retarded readers and normal readers. The subjects were 25 reading retarded students, five at each age level from 8 through 12. They all had Binet or WISC IQ scores over 50 and reading test results indicating confusion with letters. Control subjects were matched to the retarded readers by age and sex. Forty-two of the 50 subjects were boys. The test consisted of four sets of 12 two-clause sentences, one clause with a pronominal subject matching in number and gender the nominal subject of the remaining clause. Half the sentences were of indirect speech format, (e.g., "John said he was tired" or "He said John was tired") and half of adverbial clause format (e.g., "After he came home, John served dinner" or "He served dinner after John came home"). The sentences were read to the children who indicated verbally or by pointing to one of two dolls the character performing the action designated by the verb of the clause with the pronominal subject. There were no significant differences between groups on the preliminary trials. At ages 7, 8, 10, and 11, for both ambiguous and unambiguous sentences and for indirect speech and adverbial clause formats, normal readers performed significantly better. There were no differences for nine-year-olds.

EDWARDS, J. R. Reading, language and disadvantage. In Vincent Greaney (Ed.) *Studies in Reading*. Dublin: The Educational Co., 1977. Pp. 67-78.

Comments on the social and psychological context of reading problems of disadvantaged children, notes current trends in research on teaching reading to the disadvantaged, and suggests future directions.

SIEGEL, FLORENCE. Conditions which promote urban child language: a base for beginning reading. *Reading Improvement*, Summer 1979, 16, 142-148.

Investigates the most appropriate tutorial setting for generating natural urban child language for experience stories. Twenty-eight black first-grade pupils were divided among four tutoring groups: 1) black community adult, 2) white teacher, 3) black sixth-graders, and 4) white sixth-graders. Tutors and pupils met for four twenty-minute sessions from which a short experience story using the child's exact syntactic pattern emerged. Also conversations during the sessions were recorded. A five-minute in each session language segment was analyzed for amounts of child talk, linguistic variety, and Black English Vernacular. The white teacher condition produced significantly greater linguistic performance with the black community adult ranking second. Verbal variety decreased as child talk increased.

SHIELDS, PORTIA H. The language of poor black children and reading performance. *The Journal of Negro Education*, Spring 1979, 48, 196-208.

Undertakes a study to ascertain the extent to which the use of certain Black English (B.E.) and Standard English (S.E.) features affect oral reading, silent reading, and listening comprehension levels of Black English speaking children. Subjects were 130 black third graders. Language samples were obtained and examined for the use of five B.E. features and the corresponding S.E. features. The *Spache Diagnostic Reading Scales* were administered to determine independent oral silent, and listening levels. The use of the B.E. copula was significantly negatively correlated with oral reading ($r = -.22$), silent reading ($r = -.23$), and listening comprehension ($r = -.20$), while the use of the S.E. copula was significantly positively correlated with oral reading ($r = .27$), silent reading ($r = .26$), and listening comprehension ($r = .20$). S.E. past tense showed a coefficient of .26 with oral reading level. No other correlation coefficients between use of either S.E. or B.E. and reading or listening levels were found to be significant.

LAINE, JANICE E. A language analysis of successful and unsuccessful readers: comparing linguistic ability in Black, Chicano, and Anglo boys. *Journal of Black Studies*, June 1978, 8, 439-451.

Reports the results of an investigation of two issues: 1) are successful readers more fluent in oral and written language than unsuccessful readers, and 2) are there differences in oral language between lower- and middle-socioeconomic-level readers. The population for the study consisted of 120 randomly selected black, Chicano, and Anglo boys, 60 seven-year-olds and 60 ten-year-olds. At each age level, boys were divided into successful and unsuccessful readers based on teachers' determinations of whether a child was reading at or above grade level or two or more years below grade level. Subjects were individually interviewed and their responses to a series of six pictures were taped. Language samples were analyzed into communication units and mazes. A multivariate analysis of variance was used to determine the effects of different oral language behaviors of the two classifications of readers. For written language, a univariate analysis of variance procedure was utilized. Successful readers were found to be more fluent in both oral and written language than unsuccessful readers across age, socioeconomic status, and ethnicity. No significant differences appeared in language ability among the three ethnic groups, or between the language ability of low- and middle-socioeconomic status boys.

BERKOFF, NELSON. Reading skills in extended discourse in English as a foreign language. *Journal of Research in Reading*, September 1979, 2, 95-107.

Studies the performance of 27 Hebrew university students enrolled in an English as a second language reading course on five different types of English reading tests: 1) vocabulary in sentence context; 2) open ended comprehension questions over a 600 word passage; 3) factual question-cued recall to a 450 word

passage; 4) a 300 word passage with random word intrusion; and 5) a modified every eighth word cloze passage. Factor analysis produced two factors significantly associated with the variance: I, receptive extraction of meaning comprised largely of vocabulary and fact identification and II, productive extraction of meaning with heavy weightings in recall and cloze reading accuracy.

LEONG, C. K. Learning to read in English and Chinese: some psycholinguistic and cognitive considerations. In Dina Feitelson (Ed.) *Cross-Cultural Perspectives on Reading and Reading Research*. Newark, Delaware: International Reading Association, 1978. Pp. 157-173.

Cites research and other writings pointing up some of the differences between the English and Chinese languages and how reading is learned in each.

GENESEE, FRED, & HAMAYAN, ELSE. Individual differences in second language learning. *Applied Psycholinguistics*, February 1980, 1, 95-110.

Investigates individual differences in French language achievement in a group of first grade anglophone children attending a total early immersion program. Various cognitive, personality, attitudinal, and behavioral indices were used in regression analyses to predict the level of achievement in French language arts, listening comprehension, and oral production. Additionally, achievement in English reading was also assessed. Subjects were 29 girls and 23 boys, all native English-speaking grade one children who were in a total French language immersion program in kindergarten and grade one. Teachers' ratings of pupil behavior along with the cognitive factors of field independence and non-verbal reasoning ability were positively related to achievement in French language arts and listening comprehension. High scores on the reading subtest of the *Metropolitan Achievement Test* (MAT) were associated with field independence, with high nonverbal reasoning ability, and with positive attitudes toward continued schooling in French. The best predictor of MAT performance was performance on the French language arts test.

GRAY, RICHARD A.; SASKI, JAMES; MCENTIRE, MARY ELIZABETH; & LARSON, STEPHEN C. Is proficiency in oral language a predictor of academic success? *The Elementary School Journal*, May 1980, 80, 261-268.

Examines the relationship between oral language proficiency at the pre-school level and academic readiness. There were 74 five- and six-year-olds enrolled in preschool programs involved in the study. The sample was nonrandom and chosen on the basis of availability. Three tests were administered: the *Test of Language Development* (TLD), the *Basic School Skills Inventory* (BSSI), and the *Slosson Intelligence Test* (SIT). The BSSI is designed to assess readiness for academic, behavioral, and social demands of the first year in school and is completed by the teacher. Coefficients between the total score on the TLD and three subtests of the BSSI were: Basic Information, .61; Reading Readiness, .61; and Number Readiness, .54. The correlation coefficient between the total TLD score and the total BSSI score was .60. Relatively high coefficients were also obtained between SIT scores and all subtests and total scores on readiness and oral language (range .42-.78) except for Self Help and Classroom Behavior. A multiple regression analysis revealed that when IQ and TLD scores combined were used to predict readiness, only IQ was a significant predictor. When no other variables are included, subtests and total scores on the TLD were found to discriminate between high and low readiness groups. However, when IQ was used as a covariate, TLD total and subtest scores did discriminate between readiness groups. The findings suggested that there was little relationship between oral language proficiency and school readiness.

HOPPE, RONALD A., & KESS, JOSEPH F. Differential detection of ambiguity in Japanese. *Journal of Psycholinguistic Research*, May 1980, 9, 303-318.

Examines the ease of detecting different kinds of ambiguity in Japanese. Subjects were 20 Japanese adults who were presented with 60 sentences representing four kinds of ambiguity: 1) lexical-same, 2) lexical-different, and 3) surface, and 4) underlying. Subjects were told that it was their task to find the meanings of ambiguous sentences. Detection time, order of reported meanings, and whether a subject reported a third meaning were recorded. Surface ambiguity was the easiest to detect, and lexical-same ambiguity was the most difficult. The authors compare the results with findings done in English. Findings differ in the two languages.

MASON, JANA M., & KENDALL, JANET ROSS. Facilitating reading comprehension through text structure manipulation. *The Alberta Journal of Educational Research*, June 1979, 25, 68-76.

Treats two experiments comparing the performance of elementary and college students in identifying meaningful units of passages which have been varied by sentence length and intersentential targeting of meaning units. Error rate and reading time for separating sentences into meaningful units were assessed for 60 children, aged nine through 11, and 20 college students in reading the targeted paragraph passages in the first experiment. Multiple choice comprehension for 98 fourth grade pupils were original, parsed, or short sentence versions of the targeted passages in the second experiment. Large differences were found between the college and elementary school subjects' ability to identify meaning units. Lower ability readers, identified as those scoring between five and 20 on the *Metropolitan Achievement Test* were aided in comprehension and rate by parsing more complex syntax into meaning units.

VETTER, HAROLD J.; VOLOVECKY, JERRY; & HOWELL, RICHARD W. Judgments of grammaticalness: a partial replication and extension. *Journal of Psycholinguistic Research*, November 1979, 8, 567-583.

Partially replicates a 1961 study involving judgments of grammaticalness. One-hundred-fifty-two male high school seniors were asked to judge a series of 36 word sequences on dimensions of grammaticalness, meaningfulness, and ordinariness under variations of auditory (monotony-tonality) visual slide presentation, and combination of visual-auditory cues. Results of this study fail to confirm that judgments of grammaticalness, meaningfulness, and ordinariness are made in an independent manner.

SHAFFER, WILLIAM O., & LABERGE, DAVID. Automatic semantic processing of unattended words. *Journal of Verbal Learning and Verbal Behavior*, August 1979, 18, 413-426.

Conducts a pair of two-choice reaction time experiments in which 48 college students identified single words as belonging to one of four semantic categories. Each target word had flanking words placed above and below it which belonged to the same or a different category as the target. Response latencies were elevated when the category of the flanking words was assigned to a response different than the target category. It was concluded that semantic information of the flanking words is processed automatically. The data also suggest that some interference may occur at an earlier categorization stage independent of response assignment.

STANNERS, ROBERT F.; NEISER, JAMES J.; HERNON, WILLIAM P.; & HALL, ROGER. Memory representation for morphologically related words. *Journal of Verbal Learning and Verbal Behavior*, August 1979, 18, 300-412.

Conducts four experiments to determine if inflectional forms of verbs, irregular past tense verbs, and adjective and nominal derivatives of verbs have memory representations separate from base verbs. There were 20 or 24 college students in all experiments. Stimuli were presented on a CRT screen and subjects identified the stimuli as a word or non-word. The results indicated that inflections do not have memory representations separate from their base verbs but irregular past tense words and both types of derivatives do. While the latter three types of items seemed to have separate memory entries for base verbs and their variations, the entries did not appear to be independent. There was evidence that accessing the variation results in activation of the representation for the base verb, and that this activation is a necessary step in the processing of the variation.

BECKER, CURTIS A. Semantic context and word frequency effects in visual word recognition. *Journal of Experimental Psychology: Human Perception and Performance*, May 1979, 5, 252-259.

Attempts to determine if the relation between word frequency and semantic context is additive or interactive in lexical decision tasks. In Experiment 1, subjects rated 208 pairs of words. The words were either strongly related, moderately related, or unrelated. The second word of each pair was either a high or low frequency word. Twenty-seven undergraduates rated the degree of association of the words on a seven-point scale. These ratings were used to select 96 word pairs that were highly associated: 48 with a high frequency second word, and 48 with a low frequency second word. These words, in addition to 48 other word pairs in which the second word was deliberately misspelled (but preserving the pronunciation if possible) and 36 practice pairs, were presented to subjects under computer control. Subjects (a different group of 32 undergraduates) viewed the first word for 750 msec. and then were shown the second word. The dependent variable was the reaction time to identify the second word as a word or non-word. There were significant differences in reaction times favoring high frequency words and highly related pairs. But there was also an interaction between frequency and context. The author concludes that the relation between semantic context and word frequency is interactive, not additive.

WALLER, C. M. Establishing linguistic landmarks: a feasible aim? *Reading-UKRA*, December 1978, 12, 22-30.

Reports data on a preliminary investigation attempting to determine British school children's understanding of the words "although" and "because." Sixteen sentences depicted by four pictures were devised. Children were to determine which picture was most appropriate in depicting each sentence. Sentences were administered to 300 pupils, ages seven to 11, in both aural and written form. Little difference was noted between aural and reading test results. Older children appeared to be more proficient than younger children in accomplishing the task. The introduction of a negative into a structure with "because" or "although" made the sentence more difficult to understand. Sentences beginning with "although" were comprehended better than when the "although" clause appeared at the end of the sentence.

GREER, G. B. Comprehension of logical connectives in 9 to 16 year olds. *Journal of Structural Learning*, 1978, 6, 57-71.

Administers a paper-and-pencil test to boys aged 9 to 16 to determine their comprehension of logical connectives. Subjects included 33 nine-year-olds,

29 eleven-year-olds, 15 fourteen-year-olds, and 12 sixteen-year-olds from a primary and a secondary school in Belfast, Ireland. Intelligence, based on the *Raven's Progressive Matrices*, indicated approximately average non-verbal scores. Subjects were presented with 12 different figures differing in size, color, and shape and written directions containing connectives and specifying what to do with the figures. Performance improved with age and was also correlated with scores on the matrices. Disjunction was more difficult than conjunction. Part negation but not overall negation increased difficulty. Performance levels and errors made were consistent with findings from previous research.

GARDNER, P. L. The identification of specific difficulties with logical connectives in science among secondary school students. *Journal of Research in Science Teaching*, May 1980, 17, 223-229.

Identifies a list of commonly used logical connectives and tests the ability of a population of Australian students to understand them. Subjects totalled 16,530 students in grades seven to ten. They were presented with a 25-40 item test, drawn at random from a set of 25 tests. Connectives were tested in two formats, gap filling (GF) and sentence completion (SC). In addition, each connective was tested in an everyday context and in a science context. An index of overall difficulty was determined for each connective, and the 50 most difficult were determined. Connectives which indicate inference were found to be difficult as were another group that signals similarities, comparisons, and contrasts. Some additive terms and some indicators of apposition and order were also found difficult.

CHAPMAN, JOHN. Confirming children's use of cohesive ties in text: pronouns. *The Reading Teacher*, December 1979, 33, 317-322.

Discusses and reviews the literature on children's ability to employ semantic and syntactic linkages in comprehending text. Primary focus is on the effects of cohesive text on the recognition of pronouns. Implications for classroom instruction are given.

HOFFMAN, STEVIE, & FILLMER, H. THOMPSON. Thought, language and reading readiness. *The Reading Teacher*, December 1979, 33, 290-294.

Reviews the research on language development and concrete operations. Concludes that learning experiences for prereaders must be planned so that children work with concrete materials that can be physically manipulated, rather than abstract drawings or pictures. Says that learning experiences in readiness programs should involve problem solving with tangible objects and that children should then be encouraged to express what they have learned.

ASKOV, EUNICE N.; LUBAUS, ZANE; & KAMM, KARLYN. Syntactical interferences with reading comprehension: a beginning step in research. *Journal of Educational Research*, November/December 1977, 71, 76-80.

Attempts to identify the effects of one syntactical structure, embedding between the subject and verb, on the reading comprehension of young readers. Children in grades 2, 3, and 4 in two schools were randomly assigned to two test versions, one with sentences containing embedded elements and one with no embedded elements. Since no significant differences were found in the comprehension of details in the two test versions, it was concluded that embeddings of greater length and complexity should be tested experimentally to assess their impact on reading comprehension.

LEVY, BETTY ANN. Reading: speech and meaning processes. *Journal of Verbal Learning and Verbal Behavior*, October 1977, 16, 623-638.

Presents data from three experiments investigating the role of speech recoding, and its relationship to meaning analysis during reading. Subjects in all three experiments were paid undergraduate volunteers. In the first study, subjects saw a series of three unrelated sentences followed by a test sentence and were to indicate whether the test sentence was identical to, or changed from, its counterpart in the presentation series. Types of sentences were varied. In addition, input modality and vocalization were manipulated so that some sentences were listened to and others were read. In a suppressed condition, used with both listening and reading, subjects counted from one to ten repeatedly while stimuli were presented. There was a reliable deficit in fluent reading when speech recoding was suppressed. No analogous finding occurred in listening. In the second experiment, the findings demonstrated that speech interference is nontrivial, that it does not succumb to practice effects, and that it does not disappear when subjects are free to read at their chosen rate. In the third experiment, it was found that the speech interference effect occurs even when meaningless passages are read. The results are then related to three classes of reading models: top-down, bottom-up, and interactive processing views.

HOFFMAN, ROBERT R., & HONECK, RICHARD P. She laughed his joy and she cried his grief: psycholinguistic theory and anomaly. *The Psychological Record*, Summer 1979, 29, 321-328.

Explores the influence of violations of linguistic rules as represented in a set of poetic anomalies as base statements upon the written interpretations of the statements and self rating of difficulty by 12 undergraduates. Ninety percent of the interpretations were structurally well formed and could be used to support the theory that linguistically inconsistent anomalies are comprehended by reduction to literal grammatical paraphrases. However, additional analysis suggested semantic creativity, experience background, and capability for metaphor aid in the understanding of linguistic anomalies.

IV-9 Vocabulary and word identification

WHALEY, W. JILL, & KIBBY, MICHAEL W. Word synthesis and beginning reading achievement. *The Journal of Educational Research*, January/February 1980, 73, 132-138.

Investigates the role of synthesis of word parts to first grade reading achievement when the effects of IQ and reader strategy are eliminated. Subjects were 98 end-of-year grade one pupils who were randomly selected from three schools. Tests administered included the vocabulary and comprehension subtests of the *Gates-MacGinitie Reading Test*, Primary A; the *Peabody Picture Vocabulary Test*; and the *Gray Oral Reading Test*. Based on the analysis of oral reading errors, pupils were classified as demonstrating high, moderate, or low use of both phonics and grammatical relations. Word synthesis was assessed by noting the proportion of correct responses on a self-devised test using both nonsense and real words and also by obtaining the mean reaction time to correct responses. Word synthesis was found to be related to reading achievement, and to vocabulary scores in particular. Synthesis accounted for 20.26% of the variance in vocabulary achievement and 12.32% of the variance in comprehension scores. The relationship between synthesis and achievement held true regardless of reading strategy.

KIBBY, MICHAEL W. The effects of certain instructional conditions and response modes on initial word learning. *Reading Research Quarterly*, 1979-1980, 15(1), 147-171.

Reports a study in which 244 beginning first graders were taught two sets of six words by standardized teaching methods. Both sets were taught in three instructional conditions: 1) correction—correct responses were acknowledged and incorrect responses corrected 2) criterion learning—continued instruction and practice with words not learned in the allotted time and 3) regular—no correction or extended instruction. In each instructional condition, students practiced reading the words in one of two response modes: 1) selection—a multiple choice situation in which the child selected the word pronounced by the teacher and 2) production—each word was read orally by the student. Although correction increased performance on the practice trials, it did not increase the actual number of words learned or retained. Providing additional instruction and practice did not increase learning or retention. Words taught by a phonic method were better retained when practice was provided in the production mode than in the selection mode.

RICHARDSON, ELLIS, & DIBENEDETTO, BARBARA. Transfer effects of a phonic decoding model: a review. *Reading Improvement*, Winter 1977, 14, 239-247.

Presents a model for the decoding of unknown words and reviews research in paired-associate learning and beginning reading that lend support to the model.

KAMIL, MICHAEL L. Research revisited: early word recognition studies. *Reading Psychology*, Spring 1980, 1, 133-136.

Presents summaries of studies of basic word recognition and provides evidence of how they have been too hastily adopted for the methods of teaching beginning reading.

MOSENTHAL, PETER; WALMSLEY, SEAN; & ALLINGTON, RICHARD. Word recognition reconsidered: toward a multi-context model. *Visible Language*, Autumn 1978, 12, 446-468.

Reviews various models of word recognition and proposes that models of word recognition must incorporate paralinguistic variables as well as linguistic variables. A new model is proposed which describes word processing as a gestalt phenomenon, defined by the interaction of four types of context: linguistic, schematic, social and strategic. The implications of the present and previous models are discussed in terms of defining good and poor readers.

WULZ, S. VANOST, & HOLLIS, JOHN H. Word recognition: a task-based definition for testing and teaching. *The Reading Teacher*, April 1979, 32, 779-786.

Discusses a six-task analysis of word recognition and cites research on various aspects of word recognition.

BLANCHARD, JAY. Research revisited. *Reading Psychology*, Fall 1979, 1, 66-72.

Reviews the procedures, findings, and implications of K. Goodman's 1965 study on word recognition in isolation and in context. Some of the methodological problems of the study are pointed out.

BOURQUE, MARY LYN. Specification and validation of reading skills hierarchies. *Reading Research Quarterly*, 1980, 15(2), 237-267.

Compares two methodologies for establishing hierarchical relationships among selected, low-level decoding skills. Thirteen phonics and structural analysis skills found on *The Reading Skills Inventory: A Criterion Referenced Assessment*

(RSI) were selected for study. The RSI was administered to 14,500 pupils in grades one through six. Test level assignment was determined by pre-test level achieved 12 months earlier and by teacher judgment. Opinions of 23 experts were used to establish an a priori hierarchy. The hierarchies generated in this manner were then compared to those produced using empirical data based on the administration of the four criterion-referenced test levels. The experts concurred on only one aspect of hierarchical relationships, sequence, and the hierarchies resulting from the judgment of experts were weak. Specification of hierarchies based on empirical data produced more stable results than those hypothesized by content specialists.

ALLINGTON, RICHARD L., & MCGILL-FRANZEN, ANNE. Word identification errors in isolation and in context: apples vs. oranges. *The Reading Teacher*, April 1980, 33, 795-800.

Examines the commonality of errors made in reading words in isolation and reading the same words in meaningful context. Subjects were 12 good and 12 poor fourth-grade readers, as determined by performance on the Word Identification subtest of the *Woodcock Reading Mastery Tests*. Poor readers had average scores of 2.8; good readers, 4.9. Two reading passages were selected, one was at high second grade readability level, the other was at a high fourth. The passages were presented to children in regular order and with the words in random order (but with punctuation and capitalization). Number of words read correctly was the dependent variable. Besides the expected differences between good and poor readers and regular and random formats, it was found that: 1) there was a significant reading ability $\times$ format interaction (poor readers were more disrupted by format than good readers); 2) there was an interaction between format and passage difficulty level for good readers; 3) there were high rank order correlation coefficients between regular and random formats for poor readers (.94) but not good readers (.22 and .28); and 4) in spite of the high rank order correlations for poor readers, the total common error was only 18%. The authors conclude that context facilitates word recognition, even for poor readers, and that performance on isolated word lists has little diagnostic value.

EHRI, LINNEA C., & ROBERTS, KATHLEEN T. Do beginners learn printed words better in contexts or in isolation? *Child Development*, September 1979, 50, 675-685.

Compares word learning when words are taught in isolation or in the context of a sentence. Thirty-seven grade one pupils were tested after seven to eight months of instruction. They were reading in the second or final book of their first grade reading program. Eight pairs of homonyms were taught, one word from each pair on one day, and the other word the next day. All 16 words were studied on the third day. For the context method, four sentences were constructed for each word. Several other pretests to measure aspects of the readers' language were given, as well as several posttests to measure the effects of word learning. Posttest scores indicated that context-trained children learned more about the semantic identities of printed words, whereas flash card-trained children could read the words faster and learned more about orthographic forms. Knowledge of letter-sound mapping relations at the lexical level was more highly correlated with word-learning performance than knowledge of single letter-sound relations.

GOUGH, PHILIP B.; ALFORD, JACK A., JR.; & HOLLEY-WILCOX, PAMELA. Words and contexts. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 72-75.

Discusses the nature of local context and global context and how they influence word recognition. Briefly reports findings from five experiments, utilizing adult subjects, investigating the effects of context on word recognition. The authors concluded that the mechanisms underlying context effects are not well understood.

PERFETTI, CHARLES A.; GOLDMAN, SUSAN R.; & HOGABOAM, THOMAS W. Reading skill and the identification of words in discourse context. *Memory & Cognition*, July 1979, 7, 273-282.

Conducts three experiments comparing skilled and less skilled fifth-grade readers' ability to use context in identifying written words presented in various degrees of context. The *Metropolitan Achievement Test*, Intermediate, was used to identify reading level. Skilled readers read at stanines 6-8, less skilled at stanines 2-4. The same 12 skilled and 12 less skilled readers were used in Experiments 1 and 2. A different group of 12 skilled and 12 less skilled readers were used in Experiment 3. The average second grade Otis-Lennon IQ score of skilled readers was 13 points higher than less skilled readers in Experiments 1 and 2, and 16 points higher in Experiment 3. In Experiment 1, 20 words were deleted from a story. Subjects read the words as they were projected on a screen in three conditions: 1) total isolation, 2) during an oral presentation of an unrelated list of words, and 3) during an oral presentation of the story. Experiment 2 was similar, except students read the stories aloud instead of listening, and the list condition was dropped. In Experiment 3, subjects read stories orally and listened to stories. The dependent variable was the response latency to read the words. In each experiment, discourse context reduced identification latencies for both groups of readers.

HOSFORD, PRENTISS. The effect of context on the learning of new words presented in a random list by learning disabled and normal children. *Journal of Research and Development in Education*, 9, Monograph 1976. Pp. 51-52.

Compares the learning of word meanings when words are taught in isolated lists and when the same words are presented in the context of a written sequence. Words were taught to learning disabled and normal children. Both groups did learn words over trials. There was no difference between methods for the learning disabled children, but normal children learned faster in the context method.

WOOD, MARTHA, & BROWN, MAVIS. Beginning readers' recognition of taught words in various contextual settings. In Michael L. Kamil & Alden J. Moe (Eds.) Reading research: studies and applications. *Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 55-61.

Reexamines, in two investigations, the focal attention hypothesis for word recognition learning. In the first experiment the use of words in isolation, words with pictures, and words in sentence context were investigated as a means for teaching new words to beginning readers. A total of 108 first graders were assigned randomly to one of the three treatment groups. Each child was taught eight target words in an individual setting. Children taught by either the word with picture or the word in sentence context required significantly fewer trials to learn the eight words than did children in the words in isolation group. The sentence context method was found to be the most effective in initial learning. Additional results suggested that children taught by one method of teaching word recognition performed differently on different kinds of tests depending on whether or not the test is the same as the teaching task. The second experiment replicated the first but added a sixth contextual setting as a dependent variable, word in a story designed to provide contextual constraints. Again children in both the word with picture and word in sentence context groups required significantly fewer trials to learn the

target words than did pupils in the word in isolation group. When learning was tested with words in isolation, results showed no significant differences among the three approaches. No significant differences were found for instructional method when subjects were tested using words with pictures. However, on word in sentence context, the criterion variable, the contrast indicated significant findings favoring the word in context teaching variable.

SAMUELS, S. J.; LABERGE, DAVID; & BREMER, CHRISTINE D. Units of word recognition: evidence for developmental changes. *Journal of Verbal Learning and Verbal Behavior*, December 1978, 17, 715-720.

Investigates trends in word recognition as a function of grade level. Eighty subjects were involved, 20 each from grades two, four, and six, and 20 college students. Stimuli were 40 animal words, 10 words for each length of 3, 4, 5 and 6 letters. There were also 20 non-animal catch words, five at each letter length. Words were displayed on a rear projection screen and subjects pressed a hand-held button when an animal word appeared. Response latency was the dependent variable. Findings revealed significant differences between grade levels and word lengths, as well as a significant grade level $\times$ length interaction. The authors concluded that there was a developmental trend from component to holistic processing with advancing grade level.

MASON, JANA M.; KNISELEY, ELIZABETH; & KENDALL, JANET. Effects of polysemous words on sentence comprehension. *Reading Research Quarterly*, 1979-1980, 15(1), 49-65.

Conducts three experiments to determine if elementary school children interpret and remember information in sentences that contain words whose meanings are determined by the context of the sentence in which they appear. Subjects for Experiment 1 were from seven intact Canadian classrooms, two from grades four and five and three from grade seven. On the basis of the *Metropolitan Achievement Test* and teacher ratings, children were classified as high, middle or low readers. Materials for Experiment 1 were ten polysemous nouns and ten polysemous verbs, each used in two sentences, one sentence using a common meaning of the word, and one, a less common meaning. Word meaning was tested by recall and multiple-choice items. When placed in sentences supporting their most usual meanings, children recalled and selected more correct meanings than when the sentence supported the less usual meaning. In Experiment 2, minor changes in the lists and sentences were made, but the polysemous word was underlined and the pupils' attention was directed to the word. Subjects were 97 midwestern grade three and four children. In Experiment 3, the materials and task of Experiment 2 were used, but children were asked to estimate how sure their answer was. These subjects were 80 middle-income, urban, Canadian third and fourth graders. The latter two experiments confirmed the findings of the first. It was concluded that children of this age have difficulty using the context when a secondary meaning of a word is referenced in a sentence, either because they do not know its meaning or fail to attend to the important contextual clues.

JENKINS, BARBARA L.; LONGMAID, WILLIAM H.; O'BRIEN, SUSANNE F.; & SHELDON, CYNTHIA N. Children's use of hypothesis testing when decoding words. *The Reading Teacher*, March 1980, 33, 664-667.

Measures the flexibility and accuracy of good and poor third-grade readers in identifying one nonsense word conforming to regular English spelling patterns. Children were shown four lists of five pronounceable nonsense words, and the

target word was one of the words on each of the four lists. All correct responses were acknowledged with "yes" and all incorrect responses were acknowledged with "no"—except for the target word, which in all cases was given a "no" until its final appearance. Children were identified as good and poor readers on the basis of scores on the *Gates-MacGinitie Reading Tests*. The 17 good readers scored between percentiles 70-90 and the 17 poor readers scored between percentiles 20-40. Good readers gave a greater number of alternative acceptable responses than did poor readers. Poor readers tended not to change their answers. The number of unacceptable alternatives given was not reported. The authors conclude that daily phonics instruction is necessary and that poor readers should be encouraged to take more risks.

CARNINE, LINDA, & CARNINE, DOUG. Determining the relative decoding difficulty of three types of simple regular words. *Journal of Reading Behavior*, Winter 1978, 10, 440-441.

Rank orders the decoding difficulty of three types of simple regular words: CVC (with initial stop consonants), CVCC, and CCVC. The subjects were 25 first graders from Title I classrooms or from the lowest reading group of regular classrooms. Each child was asked to read or sound out 15 words, five words of each type. There were significant differences among the three sets of words, with more CVC words identified correctly (3.56) than CVCC words (2.12), and more CVCC words identified correctly than CCVC words (1.12).

OLLILA, LLOYD O., & CHAMBERLAIN, LARRY. The learning and retention of two classes of graphic words: high-frequency nouns and non-noun words among kindergarten children. *The Journal of Educational Research*, May-June 1979, 72, 288-293.

Investigates the relative effectiveness of learning and retention of two classes of graphic words: nouns and non-nouns. Subjects were 40 male and 40 female kindergarteners from Vancouver Island schools who were randomly assigned to one of two groups: nouns or non-nouns. Children were pretested with the Letter Recognition and the Technical Language of Literacy subtests of the *New Canadian Reading Readiness Test*. There was no significant difference between the two groups on the pretests. Words were selected from Moe's list of 100 high-frequency nouns or his list of 100 high-frequency non-nouns. Individually, children were taught four words until they learned them (criterion). Nouns were learned more quickly and better retained than non-nouns, and more nouns were learned than non-nouns.

MANELIS, LEON, & THARP, DAVID A. The processing of affixed words. *Memory and Cognition*, November 1977, 5, 690-695.

Reports two experiments on the recognition of affixed words. In the first experiment, a comparison was made between lexical decision times for affixed and nonaffixed words. Words were selected in sets of four with two affixed and two nonaffixed words in each set, all having the same ending and the same length. Subjects were 24 psychology students. Stimuli were presented to them tachistoscopically, and they were to decide whether both items of a pair were words. The findings did not support the decomposition hypothesis which suggests that words are recognized by combining a base and an affix. Rather the findings of both experiments supported the single unit hypothesis that words are processed as complete wholes without the need for decomposition.

TAFT, MARCUS. Recognition of affixed words and the word frequency effect. *Memory & Cognition*, July 1979, 7, 263-272.

Reports three experiments in which the word frequency effect is used to determine if affixed words and their base stems are stored together or separately in the lexicon. Prefixed words and their non-word stems (e.g., "persuade" and "suade") are examined in one experiment and affixed words and their stems ("liked" and "like") are studied in the second and third. In all three experiments, words were presented to subjects, 15 to 25 subjects per experiment, via a two-field tachistoscope or via a video display unit controlled by a PDP-11/10 computer. The reaction time required to identify the stimulus as a word or non-word was the dependent variable. In the first two experiments, lexical decision times were affected by word frequency, supporting the view that base words and their affixed derivatives are stored together in the lexicon. In the third experiment, however, the surface frequency of words was varied (e.g., "things" has a higher frequency than "worlds"), but the base frequencies of the words was held constant (e.g., the combined frequency of "world" and "worlds" equals that of "thing" and "things"). Surface frequency influenced reaction times. A model of word recognition was presented that accounts for these results.

RUBIN, GARY S.; BECKER, CURTIS A.; & FREEMAN, ROGER H. Morphological structure and its effect on visual word recognition. *Journal of Verbal Learning and Verbal Behavior*, December 1979, 18, 757-767.

Examines the recognition of prefixed and non-prefixed words and non-words in a lexical decision task (a word or non-word). Subjects in Experiments 1 and 2, respectively, were 33 and 48 undergraduates. Stimuli were 20 prefixed free-stem words matched in length, frequency and initial syllable with 20 prefixed pseudostem words, as well as two sets of filler items. Stimuli were flashed on a CRT monitor. Each trial consisted of a 750 msec. fixation stimulus, followed 250 msec. later by the target stimulus. Feedback was given. Morphological complexity of a word affects recognition time when subjects are responding to predominantly prefixed stimuli but not when responding to mostly single-morpheme stimuli. The discrepancies between these data and earlier studies were discussed, and it was suggested that morphological decomposition may be a special strategy induced by the overrepresentation of multimorphemic stimuli. In general, it appears that words need not be decomposed into their morphological constituents prior to recognition.

BEERS, JAMES WHELOCK, & BEERS, CAROL STRICKLAND. Vowel spelling strategies among first and second graders: a growing awareness of written words. *Language Arts*, February 1980, 57, 166-172.

Asks whether knowledge of written words develops sequentially in primary age children and if they can generalize their knowledge about familiar words to writing unfamiliar words. Subjects were 75 first graders and 71 second graders of average or above average intelligence. Children were asked to spell 24 words comprised of two high and two low frequency words from six vowel categories: short a, short e, long a, long ee, ea, and long i. The words were given once a month for five months. Children's knowledge about words was found to develop sequentially and systematically. Most first graders tended to focus on the name of the letter as the dominant feature and ignored other features. With unfamiliar words, they relied on the letter name to represent the vowel sound even when they spelled the corresponding high frequency word correctly. Grade two pupils demonstrated greater awareness of the multidimensional characteristics of letters. They were able to apply information about familiar words to unfamiliar words.

SULZBY, ELIZABETH. Semantic salience in relation to word knownness. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 49-54.

Investigates the development of semantic salience in relation to the meta-linguistic unit "word" in school children. Twenty-eight white, upper middle-class children each from grades one, three, and five were selected at random from one suburban elementary school. Each child was given two tasks. First each subject had to select from lists 18 words as known and 18 words as unknown in oral form and a second list of 18 known and 18 unknown words in written form. Second, children had to explain how their words went together with a word chosen by the examiner. Children gave significantly more semantic than structural responses if either the question word or the choice word were known or if the word was in the oral rather than the written mode. The oral mode continued to elicit more semantic responses across all grade levels. There was a steady increase by grade level in semantic responses even for unknown words and for configurations in which one or two words were unknown.

SCHIEPERS, CRIT. Response latency and accuracy in visual word recognition. *Perception & Psychophysics*, January 1980, 27, 71-81.

Examines the visual recognition processes in single word reading by evaluating the simultaneous effects of the eccentricity of presentation, word length and word frequency on word recognition performance and response latency for word recognition. Subjects were 11 right-handed Dutch university students with adequate vision and foveal acuity ranging from 1.25 to 2. The stimuli were 45 high frequency words and 44 low frequency Dutch nouns: five words at each length of 3-10 letters (i.e., 40 words) for each frequency, 4 two-letter words for each frequency and 1 one-letter high frequency word. Eccentricities of presentation were: foveal, ± 1 , ± 2 , ± 3 and ± 4 deg. The stimuli were presented in a two-channel tachistoscope. Vision was binocular and the fixation point was marked. A voice key was used to measure response latencies. Subjects, who responded by reporting the word, had 99.1% of all responses correct. Response latencies were significantly affected by eccentricity. Word length did not reliably affect proportion correct or response latency correct, at all eccentricities; it did affect, however, response latency for incorrect responses. Accuracy and latency measures were directly coupled and they had a linear relation. A possible scheme for the main visual recognition processes in word recognition was offered.

HOLLEY-WILCOX, PAMELA, & BLANK, MICHELLE A. Evidence for multiple access in the processing of isolated words. *Journal of Experimental Psychology: Human Perception and Performance*, February 1980, 6, 75-84.

Manipulates semantic relatedness within pairs of words in a lexical decision task. The basis of all stimuli were 30 homonyms. From each of the meanings, other pairs were found that were ambiguously related words, unambiguously related, and unrelated. Those stimuli and 30 filler pairs (all containing at least one non-word) were presented one word of each pair at a time. The dependent variable was response latency to identify the second word of the pair as a word or non-word. Subjects were 30 college undergraduates. The results showed equal facilitation for words related to either meaning of the ambiguity. This finding suggests that multiple meanings of the ambiguous words were accessed.

IMAI, YASUCHIKA. The effect of simultaneous vs successive and picture vs character presentations on learning to read *Katakana* and *Kanji* characters. *The Science of Reading*, December 1979, 23, 97-104.

Summarizes the data of two experiments on learning to read *katakana* and *kanji* characters. In the first experiment, 72 five-year-olds were assigned randomly to four independent experimental conditions: *katakana*-simultaneous presentation, *katakana*-successive presentation, *kanji*-simultaneous presentation, and *kanji*-successive presentation. The simultaneous presentation involved presenting a picture and character together; the successive presentation involved first presenting a picture, then showing a character after the picture was removed. Characters were pronounced for the children, and they were later tested on their ability to read them. Successive presentation was more effective than simultaneous. No significant differences were noted in the relative difficulty of learning to read in the two systems. In the second study, the effect of presentation of pictures in learning to read was evaluated. A total of 36 six-year-olds were assigned randomly to either a picture-*kanji* or a *kanji* only presentation. The picture-*kanji* approach was superior to the *kanji* only approach.

JOHNSON, NEAL F. The role of letters in word identification: a test of the pattern-unit model. *Memory & Cognition*, November 1979, 7, 496-504.

Reports three experiments in which subjects were asked to read short stories and search for either a word with a particular meaning or a word that began with a particular letter. Subjects were 36, 48, and 24 undergraduate psychology students in the three experiments, respectively. The results of the experiments were consistent with prior data in demonstrating that subjects were able to make word-level decisions faster than they could make component-level decisions. In addition, the final experiment indicated that subjects were no faster at finding a specific pre-designated target word than they were at finding a word that belonged to a pre-designated target category. The results were interpreted as supporting a model of pattern perception which assumes that the cognitive encoding of a small pattern does not entail any analogous, but prior, encoding of its components. In addition, the final experiment suggested that the word-level encoding contains a semantic component.

SAMUELS, S. JAY; MILLER, NANCY L.; & EISENBERG, PETER. Practice effects on the unit of word recognition. *Journal of Educational Psychology*, August 1979, 71, 514-520.

Compares component processing in word recognition to holistic processing by testing the effects of practice on the size of the unit used in word recognition. The 30 undergraduate subjects were randomly assigned to five groups. Five lists of 20 words were constructed, each list containing 12 animal and eight non-animal items. Word lengths were 3, 4, 5, and 6 letters, with five words of each length on each list. All words were mirror reflected and presented in lowercase letters. All subjects were administered a series of four blocks; subjects saw one list of words four times and four lists of words once each. Across the five groups, each list was a repeated list once and a single exposure list four times. Response latency for identifying the mirror image words as animal or non-animal was the dependent variable. Reaction time for words presented over all four blocks was significantly less than for words presented only once over four blocks. A shift from component to holistic processing was found in the repeated words, suggesting that with repeated exposure there is an increase in the size of the processing unit used in word recognition.

PUTNOKY, JENO. Motority in three functional domains of word meaning. *Journal of Psycholinguistic Research*, November 1979, 8, 543-558.

Examines the relations between motority (the capacity of words to arouse motion) and the sensory and affective connotations, as well as certain denotations,

of words. Sensory connotation is indexed by degree of visual, auditory, and tactual imagery, as assessed on a seven-point scale, while affective connotation is indexed by the usual three factors tapped by the semantic differential. The aspect of denotation used here is the abstractness value of words, also based on rating by scales. The general conclusions about motority were: 1) the finding that its sensory connotations were mainly via the auditory modality of imagery, and especially in correlation with abstract words, suggests that it has a specific function that may have originated in the processing of heard language; 2) it correlates with the potency and activity factors of affective connotation, which suggests the existence of a nonspecific function or component in it; 3) correlations with abstractness reflect that motority must have a denotative function or component, especially in case of abstract verbal stimuli. On the basis of the results, motority was felt to play a regulative role at higher levels of the organization of word meaning in particular.

TEMPLETON, SHANE. Spelling first, sound later: the relationship between orthography and higher order phonological knowledge in older students. *Research in the Teaching of English*, October 1979, 13, 255-264.

Addresses itself to how orthographic and phonological knowledge interact in students in grades six, eight, and ten. Twenty subjects at each grade level were selected, all identified as good spellers. Subjects were shown 12 real words and 12 pseudowords randomly allocated to either a context or isolation condition. Subjects were assigned to one of the two conditions of presentation. In the first condition, subjects were shown a base word and a suffix which they were to use to form a derived word. In the second condition, the base word was pronounced for subjects and only the suffix was displayed. Subjects were then to form the derived word. Subjects first pronounced and then spelled the derived word. The visual presentation of the word significantly increased the probability of correct pronunciation of the derived word ($p < .05$). At all grade levels, presenting a sentence in which the derived word could occur significantly affected the correct vowel alternation and vowel reduction. Spelling performance was also significantly improved by presenting words with a sentence. The author concluded that the visual presentation of a word, as opposed to hearing it, appeared to provide a more direct link with the appropriate phonological rules that apply to derivatives of base words. Nonsignificant coefficients were found between spelling and vowel alternation and reduction at grades six and eight, suggesting that the relationship between phonological rules and print is still inexact at that time.

GROAT, ANNE. The use of English stress assignment rules by children taught either with traditional orthography or with the initial teaching alphabet. *Journal of Experimental Child Psychology*, June 1979, 27, 395-409.

Examines the ability of seven-year-olds taught by traditional orthography (t.o.) or by i.t.a. to assign stress to the appropriate syllables of individual words and studies children's use of spelling conventions as a guide to pronunciation. Subjects were 64 children attending primary schools in Edinburgh, Scotland. Half had learned to read using i.t.a., and half, using t.o. i.t.a. children had made the transition to t.o. three months prior to the start of the study. Subjects were presented with simple sentences in which either a noun or a verb had been replaced by a two syllable nonsense word. In addition, children were given the *Crichton Vocabulary Scale* and the *Coloured Progressive Matrices*. Children in both groups showed a preference for giving vowels a lax pronunciation and for assigning stress to the first syllable. In words with a tense vowel, children tended to reduce the incidence of first syllable stress. Nouns in this situation were more likely to receive stress on the second syllable than words. i.t.a. children appeared to use the final "e" as a signal to reduce the incidence of first syllable stress more than did t.o. children.

STANOVICH, KEITH E., & BAUER, DAVID W. Experiments on the spelling-to-sound regularity effect in word recognition. *Memory and Cognition*, July 1978, 6, 410-415.

Conducts three experiments that measure the rate that subjects can recognize words with regular spelling-to-sound correspondences, words with irregular correspondence, and non-words. Both naming and lexical decision rates were measured in two formats: 1) rate of recognition when subjects had no deadline or time interval in which they had to respond, and 2) rate of recognition when there was a deadline or time limit in which they had to respond. There were 16 different subjects for each experiment. Subjects responded faster to regular words than to irregular words in both naming and lexical decision tasks. When subjects were forced to respond faster than usual, no regularity effect was apparent in either their reaction times or error rates. In the third experiment, no regularity $\times$ stimulus quality interaction was obtained. It was concluded that the phonological recoding implied by the existence of the regularity effect takes place subsequent to lexical access.

RUSTED, JENNIFER, & COLTHEART, VERONIKA. The effect of pictures on the retention of novel words and prose passages. *Journal of Experimental Child Psychology*, December 1979, 28, 516-524.

Examines the effect of pictures on both the learning of new words and the retention of factual material. Sixteen good and 16 poor readers in a London primary school served as subjects. Reading ability was determined by scores on the *Schonell Graded Reading Vocabulary Test*. The mean chronological age of the pupils involved was approximately 9.6 years. Twelve nouns, all names of unusual animals and birds, each accompanied by a short prose passage, were selected. Each passage was prepared with and without a simple outline drawing of the creature described. Readers were assigned randomly to either a passage with picture or a passage without picture condition for the first set of materials and then reversed conditions for the second set. Passages were read orally twice by subjects, and then they were asked to tell what they remembered. After the final passage, a word recognition test was given over the names of the animals and birds. Good and poor readers did not differ in the amount recalled. Pictures improved recall significantly. Recognition performance did not differ for words presented with and without pictures. Good readers recalled more of the features not presented in pictures than did poor readers. Good readers recalled more information from the beginning of the passage; poor readers, more from the end. For good readers, pictures appeared to facilitate the retention of the passage as a whole; however, the enhanced retention of poor readers by pictures seemed to be caused by an increase in the recall of picture features.

RAYNER, KEITH; MCCONKIE, GEORGE W.; & ZOLA, DAVID. Integrating information across eye movements. *Cognitive Psychology*, April 1980, 12, 206-226.

Conducts a series of experiments to determine the role of parafoveal vision in facilitating the naming of a word when it appears in foveal/vision. Subjects were ten paid volunteers who were asked to read words or make semantic categorizations of words presented. A word would initially be presented in parafoveal vision, followed by subjects' eye movement to the stimulus. During the eye movement, the initially displayed word was replaced by a word which subjects read. Prior presentation of the parafoveal word facilitated naming the foveal stimulus word under certain conditions. Three hypotheses were investigated concerning the facilitation: 1) the verbalization hypothesis, 2) the visual features integration hypothesis, and 3) the preliminary letter identification hypothesis. The results of the

experiment supported the preliminary letter identification hypothesis which suggests that some abstract code about letters of the parafoveal word is stored and integrated with information in the fovea after the saccade.

SINGER, MARTIN H. The primacy of visual information in the analysis of letter strings. *Perception & Psychophysics*, February 1980, 27, 153-162.

Attempts to separate the relative contributions of phonetic and orthographic information in a lexical decision-type task. Subjects in the three experiments were all college graduate or undergraduate students. Experiment 1 used artificial letter-like characters to represent English pseudowords and random letter strings. Subjects could learn to distinguish combinations of artificial letters on the basis of 1) orthographic, but not phonetic, information, 2) orthographic and phonetic information, 3) paired-associate verbal labels without orthographic information, and 4) neither orthographic or phonetic information. It appeared that subjects, under response deadlines, exploited orthographic information without any contribution from phonetic correspondences. Both Experiments 1 and 3 suggested that phonetic information influenced the analysis of letter strings at only longer latencies, after visual analysis. Experiment 2 provided additional support for the findings of Experiment 1. The findings support models of letter analysis or recognition which 1) posit a primary visual analysis capable of utilizing orthographic information and 2) a secondary phonetic operation.

BYRNE, BRIAN, & SHEA, PETER. Semantic and phonetic memory codes in beginning readers. *Memory & Cognition*, September 1979, 7, 333-338.

Contrasts the ability of good and poor second-grade readers to recall previously auditorily presented words in a list. The 15 readers in each group were identified on the basis of scores on the *St. Lucia Word Reading Test* and a nonsense-word reading test. The word list consisted of 12 clusters, each of five words. Each antecedent (A) word was coupled with a semantically related word (S, synonym or antonym) cued a rhyming word (R). For each S and R word there was a control word (CS and CR) which matched the control word in part of speech, syllabic length, and Thorndike-Lorge frequency rating. Selected R words were orthographically similar to their A counterparts. In the list, each A word appeared twice, the second presentation following the first by eight positions. Subjects listened to the list on tape and were to identify whether or not they had heard each word before. On the 121 words, good readers had a 12.9% error rate and poor readers, 13.4%. Good readers appeared to encode both semantic and surface aspects of items, while poor readers made a number of meaning-based confusions but almost none based on rhyme. In a second experiment, using phonetically legal non-words, poor readers made a significant number of phonetic false positives (saying "old" upon the presentation of any item), although the good readers made more. The authors suggest that poor readers are relatively insensitive to surface features of language, and that weakness is particularly marked when attention to sound and meaning are in competition.

FLEISHER, LISA S.; JENKINS, JOSEPH R.; & PANY, DARLENE. Effects on poor readers' comprehension of training in rapid decoding. *Reading Research Quarterly*, 1979-1980, 15(1), 30-48.

Examines the effects on comprehension of increasing poor readers' speed and accuracy in decoding words. Subjects in the two experiments conducted were grade four and five pupils. In Experiment 1, subjects were 14 good readers with an average score of approximately 7.6 on the *Metropolitan Achievement Test*, and the 22 poor readers with an average score of approximately 2.75. Participants in

Experiment 2, were 11 good readers who scored at least one grade above level and 33 poor readers who scored at least one year below grade level. For the first experiment, half the poor readers were trained to decode the words from two stories written at the sixth- and seventh-grade levels. They practiced the words until they could identify each in about one second, then read the words in a list form. This was followed by orally reading the passage (with aid from E), completing a cloze test on the same passage, and completing a comprehension test composed of six factual and six inferential questions. Although the trained good and poor readers did not differ in the number of isolated words read per minute or number of errors in isolation or context, the good readers scored significantly higher on all comprehension tasks and in number of words read per minute in context. The trained poor readers performed significantly better than untrained poor readers on the four tests of word recognition, but not on any of the tests of comprehension. Experiment 2 was similar, except that a phrase-reading training procedure for poor readers was added and more sessions in word decoding were conducted. In general, the results of the second experiment replicated the first. Decoding training did increase decoding rate and accuracy, but it did not improve comprehension performance.

BRADLEY, LYNETTE, & BRYANT, P. E. Independence of reading and spelling in backward and normal readers. *Developmental Medicine and Child Neurology*, August 1979, 21, 504-514.

Compares the strategies used in spelling and reading by 62 backward readers and 30 normal readers. Reading age was ascertained with the *Neale Analysis of Reading Difficulty* and spelling age with the *Schonell Graded Word Spelling Tests*. The backward readers were older (average age 10-4) than the normal readers (average age 6-10), but the two groups were nearly equal in WISC-IQ (109 and 108, respectively), reading age (7-7 and 7-6) and spelling age (6-10 and 7-2). In counter-balanced order with at least one and a half hours between tests, children were asked to spell and read in isolation 18 phonically regular words. There were many words read but not correctly spelled and many words correctly spelled that were not read, especially for backward readers. Further analysis indicated that both groups used phonological cues in spelling more than in word reading. These results led to a second experiment. The subjects were boys and girls (average age 6-10) without learning problems: this time subjects read and spelled 30 words, but many of the words were not phonically regular. They were also encouraged to use phonological strategies. The results paralleled the first experiment, though the encouragement to use phonological strategies did increase slightly the number of words children could read that they could spell. The authors conclude that phonological strategies are employed more often in spelling than reading.

TUCKER, JACQUELINE. Coding transformations and retarded and normal pupils' sight vocabulary learning. *Journal of Research and Development in Education*, 9, Monograph 1976, 9.

Compares the effectiveness of two amounts of coding of the direction of the transformation of symbols. Subjects were retarded and normal students. Stimuli were 12 words and their shorthand symbols. The shorthand symbols of six of the words were transformations (right-to-left, up-to-down or rotated) of the symbols of the other six words. The stimuli were presented in four study-test trials. For one treatment group, the transformations were coded with red directional arrows on all four study trials; for the other group they were coded only on the first trial. The dependent variable was number of symbols correctly identified. When E read the paired vor ' , there was a significant difference between groups, but the two amounts of coding did not produce significant differences in learning.

LUKATELA, G.; POPADIĆ, D.; OGNJENović, P.; & TURVEY, M. T. Lexical decision in a phonologically shallow orthography. *Memory and Cognition*, March 1980, 8, 124-132.

Asks bialphabetical subjects to make lexical decisions on letter strings composed from unique letters of both alphabets as well as from the common and ambiguous letters. Subjects were 48 students at the University of Belgrade who were presented with 144 letter strings arranged in strings of three to six letters. Half were words and half were nonwords. Subjects were asked to press a button to identify the letter string as a word or nonword. Words that could be read in two different alphabets were accepted more slowly and with greater error than words that could be read only one way. The authors concluded that for the phonologically shallow writing systems of Serbo-Croatian, lexical decision proceeds with reference to the phonology.

KOLERS, PAUL A., & GONZALEZ, ESTHER. Memory for words, synonyms, and translations. *Journal of Experimental Psychology: Human Learning and Memory*, January 1980, 6, 53-65.

Reports the findings of three experiments that looked at the relative contribution to memory of repetition of an item, of its synonyms, and of its translation. The first experiment used 12 English speaking university students; the second and third used native speakers of Spanish who were competent in English. Synonyms within and across languages were compared with exact repetition of words as aids to recall. Interlingual synonyms (translations) were found to have effects the same as those of exact repetition, but intralingual synonyms were less effective than exact repetition. The results are discussed in terms of theories assuming a common, abstract representation of meanings of words. The authors state that bilingual equivalence of words is due to the skills of using and comparing them rather than to a common underlying semantic structure.

EHRI, LINNEA C., & RYAN, ELLEN BOUCHARD. Performance of bilinguals in a picture-word interference task. *Journal of Psycholinguistic Research*, May 1980, 9, 285-302.

Administers a picture-word interference task to Spanish-English bilingual adults in order to ascertain whether the lexicons of bilinguals are integrated or whether words are stored and accessed separately in semantic memory. In the first of three experiments subjects were 18 undergraduate bilinguals. English was the dominant language for all but three subjects; 11 had learned Spanish as a second language. The second experiment employed 42 bilingual undergraduates. Twelve of these students were used in a third experiment. Three sheets of 20 drawings each served as stimuli. One of three types of printed units accompanied each picture: an English noun naming the object, the same noun in Spanish, and a sequence of X's. Words were assigned randomly to pictures. Subjects were tested in two sessions. In the first, they were to name all the words in Spanish; in the second, the words were to be named in English. Spanish and English distractor words were found to slow down picture naming in both languages. An interaction was found among subjects naming pictures in English. On the first trial, Spanish words produced more interference than English words, whereas the pattern was reversed thereafter. No differential patterns of interference were noted among subjects naming pictures in Spanish.

RYDER, RANDALL J., & GRAVES, MICHAEL F. Secondary students' internalization of letter-sound correspondences. *The Journal of Educational Research*, January/February 1980, 73, 172-178.

Examines 195 seventh graders, 205 ninth graders, and 184 eleventh graders for knowledge of eight types of letter-sound correspondences. Subjects were divided into equal numbers of high, average, and low ability readers as determined by performance on the *Metropolitan Achievement Test*, Advanced, or *Gates MacGinitie Reading Tests*, Survey F. Results revealed that these secondary subjects had mastered letter-sound correspondences in general. Low seventh grade (GE = 2.5-6.7) and ninth grade (GE = 2.8-7.8) readers had not fully mastered such correspondences as variant unpredictable vowels, variant-unpredictable vowel clusters, and variant-predictable vowels.

MEWHORT, D. F. D., & CAMPBELL, A. J. The rate of word integration and the overprinting paradigm. *Memory & Cognition*, January 1980, 8, 15-25.

Investigates the rate of word integration in various overprinting paradigms. In Experiment 1, eight undergraduates were presented words one letter at a time, each overprinted upon the previous letter. Subjects were to name the word. In Experiment 2, 30 undergraduates were shown a target letter and then a word presented one letter at a time. Subjects were to state if the target letter was in the word. In Experiment 3, undergraduates viewed overprinted words divided into letter groups, half the groups were syllables of the word, half were letter sequences but not syllables. Subjects were to identify the word. In Experiment 4, 16 undergraduates viewed words letter by letter with extended pauses between certain letters: half the pauses were at syllable boundaries, half were not. The task was to identify the word. The results of the first two experiments indicated that the slow rate of word recognition in overprinting experiments reflects the rate at which short term memory can accept separate items. Experiment 3 showed that integration was much faster when more appropriate units (syllables or non-syllable sequences) were displayed. The fourth experiment showed that the construction of supraletter units is achieved prior to short term memory. The results were discussed in terms of a model describing the construction of higher order units.

TAFT, MARCUS. Lexical access via an orthographic code: the basic orthographic syllabic structure (BOSS). *Journal of Verbal Learning and Verbal Behavior*, February 1979, 18, 21-39.

Describes a series of five experiments which detail both the structure of lexical representations accessed in visual word recognition and the method of parsing words in order to access these representations. The lexical decision task was utilized in all five experiments. Subjects were college students. The first two experiments indicated that words are disrupted more when a division is made in the word according to its pronunciation than when it is made according to its basic orthographic syllabic structure (BOSS). In experiment three, silent "e's" were not found to be part of the lexical representation of the word. The final two experiments provided evidence for a parsing procedure for retrieval that is a reiterative left-to-right technique whereby lexical searches are made for combinations of letters that begin with the initial letter of the word. The findings support a system of lexical access that is not mediated by phonological encoding.

BOETTCHER, JUDITH A. Meaning assignment strategies of skilled adult readers. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 62-67.

Explores and describes the qualitative and quantitative responses of two skilled college level readers in word meaning identification when the task involves probe questions following the reading of seven paragraphs taken from a novel. The four strategies most commonly employed in dealing with unknown words were: paragraph restatement, syntactic analysis, word part analysis, and recall.

SCARBOROUGH, DON L.; GERARD, LINDA; & CORTESE, CHARLES. Accessing lexical memory: the transfer of word repetition effects across task and modality. *Memory and Cognition*, January 1979, 7, 3-12.

Presents data from three experiments viewing the effects of various procedures on facilitation of word recognition in adults. In the first experiment, 15 paid undergraduate subjects were shown one of three sets of 25 concrete, pictureable nouns and asked to pronounce them. A second set was presented as pictures to be named. The presentation of the words in this study and in the second experiment speeded later recognition of the words even though subjects did not expect the words to be repeated and the task was changed from pronunciation to recognition. However, naming pictures did not facilitate late recognition of visually presented picture names. In the third experiment, the results indicated that the facilitation of recognition of words had little relation to episodic memory as demonstrated by the finding that subjects could not readily report whether or not they had seen a word before.

HOLBROOK, MORRIS B. Role of subjective probability in mediating the relationship between word frequency and recognition of error. *Perceptual and Motor Skills*, April 1979, 48, 617-618.

Has 50 graduate students complete a 66-item cloze text. Frequency of filling in the correct word was used as a measure of the word's subjective probability. Subjective word probability was significantly related to word frequency ($r = .22$). These data were then related to a previous finding of recognition of error on the 66 words in a proofreading task. The previously significant contribution of word frequency disappeared when subjective word probability was controlled. Thus, subjective word probability appears to require consideration in attempts to explain proofreading.

TANEHAUS, MICHAEL K.; LEIMAN, JAMES M.; & SEIDENBERG, MARK S. Evidence for multiple stages in the processing of ambiguous words in syntactic contexts. *Journal of Verbal Learning and Verbal Behavior*, August 1979, 18, 427-440.

Uses a variable delay naming paradigm to study the processing of noun-verb lexical ambiguities in sentences. Sixty college students served as subjects. They heard sentences in contexts which either biased the noun or the verb, followed by the presentation of a single word on a screen. The task was to pronounce the word. Target words were either related to the meaning of the ambiguous word biased by the context, related to the nonbiased meaning, or unrelated to either meaning. Targets appeared at three stimulus asynchronies following the sentence-final ambiguous word: 0 msec, 200 msec, and 600 msec. Subjects were randomly assigned to one stimulus onset asynchrony and one of four sentence versions: noun biased, verb biased, and a noun and a verb control. At 0 msec, naming latencies related to either reading were facilitated regardless of the biasing context. At 200 msec, facilitation occurred only when the context and target were congruent. At 600 msec, facilitation occurred to verb-related targets only when they were preceded by congruent contexts, but to noun-related targets in both congruent and incongruent contexts. The authors felt that their results supported a two-stage model in which all readings of ambiguous words are initially accessed and then the inappropriate readings are rapidly suppressed.

COLTHEART, MAX; BESNER, DEREK; JONASSON, JON TORFI; & DAVELAAR, EILEEN. Phonological encoding in the lexical decision task. *Quarterly Journal of Experimental Psychology*, August 1979, 31, 489-507.

Reports data from two experiments investigating whether performance in a lexical task is more rapid in responses to regular words than with words that are exceptions to phonic rules. Two classes of words were used. Those which conform to grapheme-phoneme correspondence rules (regular) and words which do not (exceptions). Thirty-nine words of each type were developed for the first experiment and prepared in six lists of 13 words each. An additional three lists were prepared for the second experiment, including a list of 20 exceptions. A list of pronounceable non-words was also developed for each experiment. In Experiment 1, 31 paid undergraduates were asked to determine whether each letter string on a display was a real word or not. They were informed that half of the displays would be words and half, nonwords. The 156 words and nonwords were presented in a random sequence. No advantage in reaction time or error rate was found for regular words over exceptions. In Experiment 2, 29 undergraduates participated. The exception words used all contained vowel digraphs which differ from the most common pronunciation in how they are pronounced. There were 73 control regular words matched with the 20 exception words. A set of 93 pronounceable nonwords was also developed. Included was a set of nine nonwords containing the vowel digraphs. Again, no significant differences were found in response time or error rate between regular words and exceptions. The authors concluded that access to lexical entries in lexical decision experiments does not proceed by sometimes or always phonologically recoding visually-presented words.

GLANZER, MURRAY, & EHRENREICH, S. L. Structure and search of the internal lexicon. *Journal of Verbal Learning and Verbal Behavior*, August 1979, 18, 381-398.

Examines the effect of word frequency on lexical decision. Ninety-six adults were assigned to one of six experimental word lists. Three sets of 93 words each, one of high frequency, one of medium frequency, and one of low frequency, were selected. In addition a fourth set of 93 nonwords was also constructed. From these sets, six experimental lists were developed: a pure high, pure medium, pure low, and three mixed. Each list contained half words and half nonwords. Subjects were to identify each item as a word or nonword. Response latency was measured. The findings indicated effects of list composition that ruled out frequency-ordered, serially searched models as explanations for lexical decisions. Alternative models are presented, and one is developed in detail.

CARR, THOMAS H.; POSNER, MICHAEL I.; POLLATSEK, ALEXANDER; & SNYDER, CHARLES R. R. Orthography and familiarity effects in word processing. *Journal of Experimental Psychology: General*, December 1979, 108, 389-414.

Surveys the effects of orthographic structure and visual familiarity on tasks designed to study visual, phonetic, semantic, and lexical decisions about strings of letters. Four experiments, all using paid adult volunteers, are presented. The first two experiments presented irregular acronyms, pseudowords, words, and nonsense words as stimuli. The findings demonstrated clear facilitating effects only for orthography. In Experiment 3, little evidence was found that changes in familiarity with the strings affected the visual code as determined from a simultaneous-matching transfer task. Experiment 4 attempted to compare the influence of orthography and familiarity in physical, phonetic, semantic, and lexical decisions within a single task format. Orthography affected decisions in all tasks studied. Regular strings were handled more efficiently in the visual system. Orthographic regularity facilitated positive decisions about the meaningfulness of a letter string and inhibited negative decisions. Familiarity appeared to play very little direct role in the formation of visual codes. The effects of familiarity tended to be limited to

higher levels of analysis. Implications about the nature of word perception as a component process of reading are discussed.

MASON, MILDRED. From print to sound in mature readers as a function of reading ability and two forms of orthographic regularity. *Memory and Cognition*, September 1978, 6, 568-581.

Compares the performance of 12, 24, 10, and 10 undergraduates, respectively, divided into equal number groups of skilled and less skilled readers as determined by scores on the *Nelson-Denny Reading Test* (ND). Subjects were asked to derive the names of orthographically regular and irregular words presented in lower and mixed case slides. Less skilled readers (14-40 ND percentile) made more errors and were slower than highly skilled readers (90-99 ND percentile) on both types of words. Highly skilled readers made better use of spatial redundancy to offset the array length. Less skilled readers were poorest in identifying nonwords. The author suggests that reading ability in mature readers appears to be related to speed of word recognition.

IV-10 Factors in interpretation

HARKER, W. JOHN. A model of the comprehension of poetry. In Wallace D. Miller & George H. McNinch (Eds.) *Reflections and investigations on reading. Twenty-fifth Yearbook of the National Reading Conference*, 1976. pp. 280-290.

Develops a model of the comprehension of poetry. Research findings are used to support various components of the model.

KINTGEN, EUGENE R. Psycholinguistics and literature. *College English*, March 1978, 39, 755-769.

Reviews psycholinguistic studies that appear useful or pertinent to literary study. The author contended that these studies provide a general framework for research into the cognition of literary works in that they all emphasize the interaction between the reader and what is perceived. The literature also suggests questions that can be asked and provides methods for studying those questions.

APPLEBEE, ARTHUR N. ERIC/RCS report: the elements of response to a literary work: what we have learned. *Research in the Teaching of English*, Winter 1977, 11, 255-271.

Summarizes the research on response to literature under two major categories: the effects of schooling and the psychology of response. An appendix summarizes the characteristics of each study in a table.

KINTGEN, EUGENE R. Perceiving poetic syntax. *College Review*, September 1978, 40, 17-27.

Describes the responses of eight faculty members and eight graduate students to reading an unfamiliar poem, highly structured, reasonably sophisticated in semantic content and of irregular syntactical form. Subjects were asked to verbalize everything they did in coming to a complete understanding of the poem. Representative responses and illustrations of difficulty patterns are presented. General observations of the researcher include: 1) the readers gave considerable attention to dealing with syntax; 2) they do this as a normal process in attempting to understand; 3) there is considerable disagreement among their conclusions; 4) those who agree in conclusions may arrive at this by different processes; 5) that such differences are more likely the result of relatively semantic weighting by the reader; and 6) that reading a poem is a transactional process.

GLASER, ROBERT. Trends and research questions in psychological research on learning and schooling. *Educational Researcher*, November 1979, 8, 6-13.

Presents examples of research that exemplifies the interactive network between behavioral science and educational problems. Includes a section reporting research on reading and text composition.

READENCE, JOHN E., & HARRIS, MARY McDONNELL. False prerequisites in the teaching of comprehension. *Reading Improvement*, Spring 1980, 17, 18-21.

Attempts to define the skills essential to comprehension by identifying false prerequisites. Twenty-three good and 23 poor sixth-grade readers were selected on the basis of scores on the *Iowa Tests of Basic Skills*. Good readers were those who scored at the eighth or ninth stanine on the comprehension section of the test; poor readers, those who scored on or below the fourth stanine. Subjects were administered a battery of criterion-referenced measures of nine specific comprehension subskills including identifying main ideas, identifying outcomes, drawing conclusions, determining sequence, identifying pronoun referents, deriving meaning from context, using punctuation clues, understanding syntax, and affixes. Fifteen tests were administered, each consisting of five or ten items constructed to measure the specific subskill. Eight out of ten items correct was the criterion for passing in each subskill area. False prerequisites were those skills unattained by 75% or more of good readers. Skills which may be necessary but not sufficient were those mastered by at least 90% of good readers and about 50% or more of poor readers. Skills associated with competency were those achieved by 75% or more of good readers and less than 25% of poor readers. One skill, affixes, was found to be a false prerequisite. Three skills were identified as possibly necessary, but not sufficient for comprehension: identifying possible outcomes, using punctuation clues, and understanding syntax. The five remaining skills were ones deemed to be associated with competency.

MACLEOD, COLIN M.; HUNT, EARL B.; & MATHEWS, NANCY N. Individual differences in the verification of sentence-picture relationships. *Journal of Verbal Learning and Verbal Behavior*, October 1978, 17, 493-507.

Analyzes the performance characteristics of 70 undergraduates assessed for comprehension time, verification time, and strategy preference in the verification of simple sentence-picture pairs as presented and responded to with a Tektronix display scope and NOVA computer. Subjects were assessed with the *Nelson-Denny Reading Test*, and the *Washington Fire-College* test, a scholastic aptitude test delivering verbal and spatial ability measures. The larger group of subjects fit a prediction model based on the use of a linguistic strategy. A smaller group employed a pictorial-spatial strategy. Psychometric measures discriminated between the two groups in spatial ability but not in verbal ability. The higher spatial ability was related to the picture-spatial strategy.

DEN UYL, MARTIJN, & VAN OOSTENDORP, HERRE. The use of scripts in text comprehension. *Poetics*, June 1980, 9, 275-294.

Presents subjects with 20 stories, each containing one of two different actualization sentences constructed to instantiate a different parallel script or script-track. (Script-tracks are different versions of the same story with variations in setting, etc.) Each story also contained one of two criterion sentences four to eight sentences after the actualization sentence. Actualization sentence 1 (2) was compatible with criterion sentence 1 (2) and less compatible with criterion sentence 2 (1). Subjects, 76 University of Amsterdam psychology students, read the stories one sentence at a time on a CRT screen, and reading time was the dependent variable. Criterion sentences compatible with the script actualization-sentence were read

faster than less compatible sentences. It was concluded that actualization of a script facilitates comprehension of information related to that script.

STERNBERG, ROBERT J. Developmental patterns in the encoding and combination of logical connectives. *Journal of Experimental Child Psychology*, December 1979, 28, 469-498.

Researches developmental patterns in encoding and combining logical connectives. Participants included 224 subjects in grades two, four, six, eight, junior and senior years of high school, and college freshmen and sophomores. A replication study included 36 Yale freshmen and sophomores. Subjects were presented with two different tasks, encoding and combination, via two different content vehicles over the course of two sessions. The tasks involved solving problems requiring comprehension of selected logical connectives. Half the subjects were required to encode the connectives; the other half had to both encode and combine them. Second graders were able to encode the logical connectives, but it was not until fourth grade that children showed evidence of consistent combination of logical connectives. Comprehension of different connectives developed at different rates. Generally, comprehension of the conjunctive connective was easiest; comprehension of the conditional and biconditional connectives was most difficult.

DOUGLAS, JOAN DELAHANTY, & PEEL, BETTINA. The development of metaphor and proverb translation in children grades 1 through 7. *The Journal of Educational Research*, November/December 1979, 73, 116-119.

Uses taped sentences containing metaphors, proverbs, and dual function words to assess the ability of 30 pupils from each of first, third, fifth, and seventh grades to translate figurative speech into appropriate meaning. Significant effects for grade levels were obtained; the ability to translate proverbs did not appear in most subjects until the seventh grade.

SPENCER, DAVID B. Instantiation: one difference between adults and children when reading. In Gwyn Enright (Ed.) *Proceedings of the Twelfth Annual Conference of the WCRA* (Western College Reading Association). 1979. Pp. 43-47.

Gives four stories written by second graders to other children and to college students and asks questions about the characters, plot, theme, and action. Responses of children and adults were then compared and an attempt was made to explain the mental behavior affecting meaning. Most readers performed recall questions well and little variance between the two groups was noted. A greater proportion of adults than children selected a symbolic response over a literal or general outcome response in one example presented.

ISAKSON, RICHARD L.; MILLER, JOHN W.; & O'HARRA, NANCY J. Finding the main idea: can your students do it? *Reading World*, October 1979, 19, 28-35.

Evaluates the ability of 177 subjects, grades one through five, to identify the main idea contained in 20 single pictures or multiple picture stories. Percentage of pupils meeting a preset criterion of 80% accuracy for successive grade levels were: first (18%), second (29%), third (47%), fourth (77%), and fifth (81%).

HARING, MARILYN J., & FRY, MAURINE A. Effect of pictures on children's comprehension of written text. *Educational Communication and Technology*, Fall 1979, 27, 185-190.

Assesses the effects of pictures on the comprehension of text by 75 fourth grade and 75 sixth grade children randomly assigned to each of the three picture detail conditions of: 1) pictures depicting main ideas, 2) pictures depicting both main ideas and nonessential details and, 3) no pictures with written text. Narrative

was written at grade levels. The two picture conditions subjects recalled significantly more main idea units than the no picture group: the more detailed pictures did not facilitate significantly more recall than the main idea pictures. Pictures did not aid in recall of lower-level information.

STEINGART, SANDRA KOSER, & GLOCK, MARVIN D. Imagery and the recall of connected discourse. *Reading Research Quarterly*, 1979-1980, 15(1), 66-83.

Explores the effects of imagery and text organization upon multiple-choice and written recall of comprehension responses for 48 and 47 college subjects in two experiments. Materials consisted of nine reading passages of 19 sentences, parallel in semantic structure but organized to represent referent, attributive, or random sentence groupings. Half of the subjects were instructed to visualize passage information and half were told to repeat to themselves the passage paragraphs during the reading/study session. Criterion testing consisted of questions assessing four levels of combining sentence information. Significant main effect differences were identified for strategy, text organization, and question level. Referent organized text produced better comprehension. Imagery proved significantly better with attributive organization, but not with referent or random organization. When word cued recall was compared to initial free recall, a significant main effect obtained for cueing but no notable interaction between strategy and recall resulted.

HOLMES, V. M. Accessing ambiguous words during sentence comprehension. *Quarterly Journal of Experimental Psychology*, November 1979, 31, 569-589.

Examines in five experiments, visual processing of sentences containing either a more frequent or a less frequent usage of an ambiguous word. When prior or subsequent context was pragmatically related to the relevant sense of the ambiguous word, sentences intending the more frequent sense produced longer ambiguity detection times and shorter immediate comprehension times than sentences intending the less frequent sense. This relative frequency effect was not obtained in comprehension of corresponding unambiguous sentences containing relatively high or low frequency unambiguous synonyms of the senses. These results suggest that access of ambiguous word-senses tends to occur in order of relative frequency, and that multiple access of senses tends only to occur for low frequency usages. When the preceding verb imposed selection constraints on which sense could follow, the frequency effect did not occur consistently; and it was virtually eliminated when biasing context took the form of a previous sentence containing an unambiguous synonym of the relevant sense.

GOETZ, ERNEST T. Inferring from text: some factors influencing which inferences will be made. *Discourse Processes*, July-September 1979, 2, 179-195.

Reports on two experiments assessing the extent to which inference comprehension over 500 word fictional stories tested by multiple choice or cued recall testing form, was influenced by manipulating text to vary the importance of target events and explicitness (stated or implied condition) of the target. Analysis of the 184 high school subjects' performance was made by grade level and also by verbal ability as measured by the *Wide Range Vocabulary Test*. Upper classmen and students with higher verbal ability performed better under all conditions. Versions with heightened importance, greater salience of premises, and degree of explicitness significantly improved inference comprehension. Explicitness reduced the impact of the other variables.

KEMPER, SUSAN, & CATLIN, JACK. On the role of semantic constraints in sentence comprehension. *Language and Speech*, July/September 1979, 22, 253-267.

Utilizes two experiments in assessing whether the presence of semantic constraints facilitates the recovery of logical/underlying roles of noun phrases. Participants in the first experiment were 18 entering college freshmen, and, in the second, 40 undergraduate students. In Experiment 1, subjects were to determine which noun phrase of a sentence was the logical/underlying subject and which was the logical/underlying object. When subjects had accomplished this, they were then asked to verify whether a subsequently presented noun phrase was the logical subject or logical object. Subjects were given 20 sentences each of three different types. Measures of time required to extract the logical roles of the noun phrases and to verify those roles were obtained. Findings showed that the presence of semantic constraints facilitated explicit recovery of logical relations. Reversible passive sentences required longer processing time than reversible active sentences. The active versus passive difference was significantly reduced by the presence of semantic constraints. When subjects were instructed to comprehend the sentences and no other experimental task was required, passive constrained sentences took no longer to comprehend than active constrained sentences even though passive reversible sentences were harder to comprehend than active reversible sentences. The authors conclude that their findings support an interactive view of sentence comprehension: semantic factors interact with syntactic factors.

CORBETT, ALBERT T., & DOSHER, BARBARA A. Instrument inferences in sentence encoding. *Journal of Verbal Learning and Verbal Behavior*, August 1978, 17, 479-491.

Investigates the role of inferences in comprehension and attempts to determine what factors control them. A series of three experiments, all using undergraduate students as subjects, are presented. The research focused on instrument inferences; i.e., sentences were presented in which the reader inferred an instrument or tool for accomplishing an action. Subjects were presented with 18 sentences, each describing an action that accepts a highly likely instrument. Each sentence was prepared in three versions: high-probability instruments, implicit instruments, and low-probability instruments. Subjects had six of each type in their list. The three learning conditions were crossed with three test conditions in which cue effectiveness was examined by a cued recall task. Subjects were to read and try to remember the sentences. Presence of a high probability instrument improved recall even when the instrument was not encoded as the instrument of the sentence but was replaced by an alternate instrument. The findings suggested that subjects do not routinely infer implicit instruments in learning and thus do not routinely draw highly likely inferences if those inferences are not needed for comprehension. The authors concluded that recall cue effectiveness is not a reliable measure of encoding in comprehension.

REDER, LYNNE M. The role of elaboration in the comprehension and retention of prose: a critical review. *Review of Educational Research*, Spring 1980, 50, 5-53.

Selectively and critically reviews research in the areas of educational psychology, psychology, and artificial intelligence which pertains to factors which influence recall, representations of text structures and the use of knowledge as an aid to the comprehension and recall of prose. The review includes analysis of prior research focusing upon educational applications, technological contributions to prose research, text grammars, processing models, problems of oversimplification and reductionism, and implications for educational use. The role of elaborations in comprehension as a useful tool for analysis is stressed.

CIRILO, RANDOLPH K., & FOSS, DONALD J. Text structure and reading time for sentences. *Journal of Verbal Learning and Verbal Behavior*, February 1980, 19, 96-109.

Examines the influence of a story's structure on the comprehension and rate of comprehension of its sentences. The subjects in the two experiments were 21 and 24 undergraduates. The materials for Experiment 1 were ten selected and reconstructed stories in which sentences at high and low structural levels in the story were interchanged at early and late points in the story, resulting in four story conditions: high level-early occurrence, high level-late occurrence, low level-early occurrence, and low level-late occurrence. In Experiment 2, the critical sentences were repeated across four stories, varying hierarchical and serial position orthogonally. There were three sets of four stories plus a set of practice stories. Subjects read the stories one sentence at a time on a display screen. Reading time and comprehension were measured. In both experiments, high-level sentences took longer to read than low-level ones and early-occurring sentences longer than late-occurring ones. Recall data supported the structural assignment of the critical sentences. These results were discussed both in terms of the initial hypotheses and in terms of a theory of text comprehension.

SMITH-BURKE, MARGARET, & GINGRICH, PATRICIA S. The differential role of function words and lexical items in narrative and expository text. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 45-48.

Looks into the effect of different styles of text (narrative and expository) and deletion patterns of different linguistic elements (lexical and function), on cloze comprehension scores. The two test passages ranged from seventh to ninth grade reading level. A lexical and a function word deletion pattern were applied to both passages. Subjects were 40 graduate psychology students who were randomly assigned to one of the two conditions. A significant difference between narrative and expository style for the lexical item deletion pattern was found, but not for the function word deletion pattern. Lexical items were more difficult to replace in narrative style prose than in expository prose.

GRAESSER, ARTHUR C.; ROBERTSON, SCOTT P.; LOVELACE, EDWARD R.; & SWINEHART, DANIEL M. Answers to why-questions expose the organization of story plot and predict recall of actions. *Journal of Verbal Learning and Verbal Behavior*, February 1980, 19, 110-119.

Analyzes the influence of a why-question answering strategy upon the recall by 47 college students of three familiar children's folk tales. Answers to the why-questions provided a functionally valid scale for hierarchical level and rational density dimensions for intentional plot actions, but not for events, states, and conversation acts. Superordinate actions were recalled more often than subordinate actions. Recall increased with the degree to which a statement was conceptually related to other passage statements.

GLOVER, JOHN A. Levels of questions asked in interview and reading sessions by creative and relatively noncreative college students. *The Journal of Genetic Psychology*, September 1979, 135, 103-108.

Describes the nature and results of two experiments concerning the differential performance of college undergraduates identified as relatively creative and relatively noncreative by scores obtained on the *Torrance Thinking Creatively with Words Test*. In Experiment I, with an N of 260, subjects were asked to write five

questions relevant to course readings. Analysis of variance results indicated that creative students asked greater numbers of evaluative, synthesis, and application questions, and the less creative students asked a significantly greater number of knowledge and comprehension items. No difference was noted among groups for analysis type questions. In Experiment II with an N of 96 undergraduates, subjects took the *Nelson Denny Reading Test*, the Unusual Uses subtest of the Torrance, and were asked to write one question per paragraph of a 15 paragraph essay. Results revealed that creative group asked significantly more higher order questions while the noncreative group asked significantly more factual questions.

LOPEZ, LINDA C.; CLARK, PHILIP M.; & WINER, GERALD A. The relationships of two cognitive styles to reading speed and comprehension. *The Journal of Genetic Psychology*, December 1979, 135, 229-235.

Tests the hypotheses that fluency, the ability to move fluently from one stimulus to another, is related to reading rate, while closure flexibility, the ability to disregard irrelevant stimuli, is related to reading comprehension. Four scores were obtained on the following instruments from each of the 94 grade five pupils involved: the *Word Fluency Test*, *Concealed Figures Test*, and rate and comprehension on the *Pupil Progress Series*, *Diagnostic Reading Test*, Elementary Level. The findings tended to support the hypotheses. Reading rate was more closely related to the fluency measure than to scores on the closure measure, while comprehension scores were more closely related to the scores on the closure measure than to scores on the fluency measure. When analyses were performed for boys and girls separately, the findings held up for boys, but, for girls, only the relationship between comprehension and the closure measure was found.

LEGENZA, ALICE, & ELIJAH, DAVID. The cloze procedure: some new applications. *Journal of Educational Research*, July/August 1979, 72, 351-355.

Analyzes cloze passages to determine the patterns of errors made on materials at independent, instructional and frustration reading levels. Second grade cloze passages were administered to 107 second graders, and fourth grade passages were administered to 190 fourth graders. The performance of 75 second graders and 69 fourth graders was selected for study. Criteria for determining levels were: independent, 58-100% correct on the cloze task (19 fourth graders, 25 second graders); instructional, 44-57% correct (25 subjects at each grade); frustration, below 44% correct (25 subjects at each grade). Each cloze error was classified as a logical substitution, grammatical error, illogical substitution, or blank response. As material increased in difficulty, the number of logical substitutions decreased significantly at both grades and the number of illogical substitutions significantly increased. The effects of difficulty on grammatical errors and on responses was mixed, but generally these errors increased as material became more difficult.

EGGEN, PAUL; KAUCHAK, DONALD; & KIRK, SANDRA. The effects of generalizations as cues on the learning of information from graphs. *Journal of Educational Research*, March/April 1978, 71, 211-213.

Investigates the effect of prior generalization requiring activities upon the comprehension of graphically presented material. Subjects were 59 college students randomly placed in one of two groups: generalized-cue experimental group and the control group which was given no special cues. Subjects studied five graphs, then answered questions designed to measure general inspection of the graphs. Analysis of variance results favored the control group for specifics and conditional effect, but not for judgment of generalization validity.

JOHNSON, MICHAEL G., & MALGADY, ROBERT G. Some cognitive aspects of figurative language: association and metaphor. *Journal of Psycholinguistic Research*, May 1979, 8, 249-263.

Examines the relationship between the association-related characteristics (similarity, common properties, associate uncertainty) of word pairs and those of metaphors containing the same pairs. Subjects were 311 undergraduates who were assigned to seven different treatments in which the word pairs appeared in or out of context. Subjects were to 1) give word associations, 2) rate words for similarity, 3) list attributes or properties shared by both words, or 4) rate each metaphor on a five-point scale for goodness. High intercorrelation coefficients were obtained for interword similarity, associational variance, and common property distributions. From the findings, the authors concluded that aesthetic judgments and ease of interpretation of metaphor meanings were related to measures of relationship between the vehicle and tenor nouns in the metaphors.

ORTONY, ANDREW; SCHALLERT, DIANE L.; REYNOLDS, RALPH E., & ANTOS, STEPHEN J. Interpreting metaphors and idioms: some effects of context on comprehension. *Journal of Verbal Learning and Verbal Behavior*, August 1978, 17, 465-477.

Describes two experiments which measured reaction times for recognizing or understanding target sentences or phrases encountered in previous context. Forty undergraduate subjects of the first experiment did not differ significantly in amount of time spent on metaphor or literal inducing contexts when text length was controlled. Targets following longer preparational text were processed significantly faster; the change was particularly notable in the case of metaphor. With the 48 undergraduate subjects of the second experiment, some evidence was obtained that although idiomatic interpretations produced faster reaction, phrases which could be interpreted either in a literal or idiomatic manner required greater processing.

SWINNEY, DAVID A., & CUTLER, ANNE. The access and processing of idiomatic expressions. *Journal of Verbal Learning and Verbal Behavior*, October 1979, 18, 523-534.

Describes two related experiments which support a lexical representation hypothesis which posits that idioms are stored and retrieved from the lexicon in the same manner as other words. Reaction times to a computer display/response phrase classification test by 20 and 42 undergraduate subjects were obtained. Classification times were significantly faster for idiom than for matched control phrases, an effect which held across conditions of idiom categories, transitional probabilities of phrase words, and levels of sensitivity to idiom presence.

HIRST, WILLIAM, & BRILL, GARY A. Contextual aspects of pronoun assignment. *Journal of Verbal Learning and Verbal Behavior*, April 1980, 19, 168-175.

Investigates, in two studies, the effect context has on pronoun assignment for sentences in which the contextual constraints are carefully controlled. A preliminary experiment was carried out to obtain plausibility ratings of pairs of sentences to be used in Experiments 1 and 2. In Experiment 1, 22 paid subjects then had to specify the referent of a pronoun in five types of sentence pairs ranging in plausibility. Context affected assignment time in cases of ambiguous coreference. The results also indicated that integration occurred during assignment. In Experiment 2 an attempt was made to determine whether contextual constraints affect assignment time when the coreference is unambiguous. The ambiguous sentence pairs in Experiment 1 were transformed into unambiguous pairs. Again 25 paid sub-

jects participated. They were presented with 18 experimental sentence pairs and 18 distractor pairs. The 18 experimental sentences were selected from unambiguous variants of sentences in Experiment 1 so that nine had a high plausibility difference and nine a low plausibility difference. Subjects nearly always chose the correct referent and took longer to identify this referent in an unambiguous sentence with a low rather than a large plausibility difference. The results suggested that individuals do integrate the information in the pronominalized clause with the information in the preceding text even when integration is not necessary for assignment. The authors felt that the results suggested that contextual constraints work in tandem with the syntactic constraints. Integration occurs during rather than following assignment, and pronouns may act as indicators to integrate text.

KNIFONG, J. DAN, & HOLTAN, BOYD D. A search for reading difficulties among erred word problems. *Journal for Research in Mathematics Education*, May 1977, 8, 227-230.

Examines the role of reading in incorrectly solved arithmetic word or story problems. This study is a follow up on an earlier study in which the errors made by 35 sixth-grade children on the word problem portion of the *Metropolitan Achievement Test* were divided into two categories: Category 1, all clerical or computation errors (52% of the total errors), and Category 2, all other errors (48%). Reading factors could not have accounted for Category 1 errors, but their influence on Category 2 errors was not known and was the purpose of the present study. Subjects were asked to 1) read aloud the problems they missed, 2) state what situation the problem describes, 3) state what the problem asks them to find and 4) state how the problem should be solved. Of the 218 problems examined, 95% were read correctly, the situations described by the problem were correctly reported for 98% of the problems, and what the problem asks students to find was correctly reported for 92% of the problems. To the questions of how to solve the problem, however, only 36% of the problems received correct responses. The authors argue that failure on math and word problems cannot be automatically ascribed to reading difficulties.

SJOGREN, DOUGLAS, & TIMPSON, WILLIAM. Frameworks for comprehending discourse: a replication study. *American Educational Research Journal*, Fall 1979, 16, 341-346.

Replicates a 1977 study in which male physical education majors and female music education majors read ambiguously worded reading passages of approximately 145 words related to particular backgrounds of the group. The present study deviates from the first in that the 109 subjects were drawn from physical education and fine arts with members of both sexes, and a title/no title condition was added. The criterion measure was identification of dominant/non-dominant topic interpretation as determined by multiple choice items. Contrary to the earlier study results, the present study found no overall passage or class effect, but did find significant effects for title condition and sex of respondent.

STEFFENSEN, MARGARET S.; JOAG-DEV, CHITRA; & ANDERSON, RICHARD C. A cross-cultural perspective on reading comprehension. *Reading Research Quarterly*, 1979-1980, 15(1), 10-29.

Checks the influence of background knowledge about the content of material on how well it will be comprehended, learned, and remembered. Nineteen adults from India and 20 from the U.S., matched for age, sex, education, academic specialization, and marital status, read two letters describing typical Indian and American weddings. They were then asked to write all that they could recall of

each letter and to answer five inferential questions. Subjects read their native letter more rapidly, produced more culturally appropriate elaborations of the native passage, and produced more culturally biased distortions of the foreign passage.

BUSCHKE, HERMAN, & SCHAIER, ARON H. Memory units, ideas, and propositions in semantic remembering. *Journal of Verbal Learning and Verbal Behavior*, October 1979, 18, 549-563.

Describes in detail a form of two-dimensional recall to identify units of recall and their relationships in the process of remembering propositional units and also the correspondence of recall organization to story schema. Two groups of ten medical and graduate students twice read a short story and were instructed to write significant associational memories of the story during each of six eight-minute trials. Subjects also were asked to describe the game of baseball from memory by a similar response-trial system. Specific subject response interactions are analyzed. In general, responses support the hypothesis that remembering a story involves the recall of propositions organized according to a story structure and that this applies regardless of the availability of a text stimulus.

POLLARD-GOTT, LUCY; MCCLOSKEY, MICHAEL; & TODRES, AMY K. Subjective story structure. *Discourse Processes*, October/December 1979, 2, 251-281.

Investigates the relation of story grammars to perceived story structure in two experiments. Fifty-six paid college students served as subjects in the first experiment, and 48 college students participated in the second. Subjects were called upon to sort the sentences of simple stories into groups that appeared to fit together in the structure of the story. Results were compared with two story grammars used in the research. There was generally good agreement between the empirical and theoretical structural grammars. However, the empirical structures differed from the structural descriptions generated by the grammars in several meaningful ways. The empirical story structures were felt to be most directly interpreted as the reader's organization of the story information rather than as a description of the organization of information as directly presented in the text. The findings also indicated that subjects may arrive at alternative formulations for a story's organization, whereas story grammars assume a single canonical organization of story information.

POULSEN, DOROTHY; KINTSCH, EILEEN; KINTSCH, WALTER; & PREMACK, DAVID. Children's comprehension and memory for stories. *Journal of Experimental Child Psychology*, December 1979, 28, 379-403.

Shows four picture stories to 16 four-year-olds and 16 six-year-olds and asks them to describe each picture and then to recall the story without pictures. Pictures were presented in either their normal order or in scrambled order. Tape recorded protocols were transcribed and analyzed for a comparison between responses in the normal condition and in the scrambled condition. Results indicated that even four-year-olds, but especially younger children, were interpreting the pictures as stories in the normal condition and that their knowledge about stories determined the nature of their responses. Even in the scrambled condition, six-year-olds attempted to make sense of the pictures in terms of a story by making inferences, attributing thoughts and emotions to the characters, and using narrative conventions. However, four-year-olds often reverted to a simple labeling strategy in the scrambled condition. Those parts of the descriptions that were best integrated into a story were recalled best, while nonintegrated descriptions tended to be forgotten.

MOSENTHAL, PETER. Children's strategy preferences for resolving contradictory story information under two social conditions. *Journal of Experimental Child Psychology*, October 1979, 28, 323-343.

Identifies five types of strategies employed to resolve text anomalies arising when old information in a story setting conflicts with new information and notes the strategies used in resolving this conflict by third- and sixth-graders. Data from two experiments are presented. In the first, subjects were 20 third graders and 20 sixth graders randomly assigned to each of four story conditions. The second employed 80 grade three and 80 grade six pupils as participants, again randomly assigned in groups of 20 at each grade level to each of four story conditions. Both age groups consistently selected certain strategies for resolving old and new, empirical and value, contradictory information. The major differences between the two grade level groups was that grade three pupils modified old information to fit new information, whereas sixth graders modified new information to fit old information. In contrasting formal and informal conditions, grade three pupils shifted their strategy preference so as to minimize the amount of text restructuring in the formal condition; grade six pupils shifted their strategy preferences so as to maximize the amount of text restructuring in informal conditions.

MOSS, P. D. Oral stories and responses to literature: some new sources and results. *Educational Review*, November 1979, 31, 243-258.

Cites the findings of a project in which selected stories were presented on tapes to secondary school students, responses obtained and then correlated with age, IQ, and reading ability. Students engaged in the study were 72 Australian high school students enrolled in heterogeneous classes. Forty subjects were in their eleventh year of school and 32, in their ninth year. Stories were varied for complexity and level of sophistication. Responses to each story were analyzed relative to CA, Reading Age, and IQ. Higher appreciation and awareness scores appeared to be a function of CA, independent of any formal ability factor.

MCCLURE, ERICA; MASON, JANA; & BARNITZ, JOHN. An exploratory study of story structure and age effects on children's ability to sequence stories. *Discourse Processes*, July-September 1979, 2, 213-249.

Traces the competence and strategies 214 children demonstrate in re-ordering six sentence stories reorganized to fit a canonical (setting, event, sequence) form, a question beginning form, or a conclusion beginning form. Children came from three classrooms each at grades three, six, and nine. In general, consistent, pronounced developmental improvement in the ability to order the stories was revealed. Third graders had notable difficulty with question and conclusion dominant forms. The canonical or event sequence form was significantly more easily reordered. Underlying story structure exerted greater influence than lexical form upon subject competence and attack. The findings suggested that deep structure is of greater importance in comprehension than is surface structure.

AUBLE, PAMELA M.; FRANKS, JEFFREY J.; & SORACI, SALVATORE A., JR. Effort toward comprehension: elaboration or "aha!"? *Memory & Cognition*, November 1979, 7, 426-434.

Conducts a series of four experiments designed to examine the extent to which two processes are operative in facilitating recall of sentences. The two processes are termed elaboration and "aha." In elaboration, when a sentence and a cue are presented separately, it is hypothesized that subjects elaborate the sentence and its relation to the cue or do a deeper processing of the sentence. The "aha" process

posits that higher recall rates are related to subjects being momentarily in a state involving lack of comprehension and that this state is followed by understanding of the stimulus. In all experiments, subjects were 20 undergraduate students who were either paid or received course credit for participation. In the first experiment, the amount of elaborative processing involved in comprehending a sentence and cue and the occurrence of an "aha" experience were manipulated. The other experiments explored aspects of the findings of the first experiment in greater detail. The results demonstrated that the "aha" experience facilitates recall of sentences significantly more so than does elaborative processing. The amount of elaborative processing involved in understanding a sentence does not appear to be an effective determinant of later recall.

YEKOVICH, FRANK R., & WALKER, CAROL H. Identifying and using referents in sentence comprehension. *Journal of Verbal Learning and Verbal Behavior*, June 1978, 17, 265-277.

Utilizes two experiments to examine certain text characteristics that determine when a repeated noun has a clearly identified referent. Subjects were undergraduate students who received extra credit for involvement in the study. They read context-target sentence pairs in which one noun was repeated or used synonymously across the pair. Contexts varied according to 1) whether the verb directed an action, or described a nondirect action or its psychological state, and 2) whether the modifier of the antecedent was definite or indefinite. In the first experiment, directive verbs led to similar target comprehension time for both modifiers. However, with nondirective verbs, indefinite articles slowed comprehension. The second experiment showed identical effects with synonyms. Thus, the authors concluded that verbs as well as article modifiers influence the comprehensibility of context-target sentence pairs.

WASON, PETER C., & REICH, SHULI S. A verbal illusion. *Quarterly Journal of Experimental Psychology*, November 1979, 31, 591-597.

Compares the understanding of sentences which expressed pragmatic information and sentences which expressed non-pragmatic information in order to investigate the role of pragmatic factors in sentence comprehension. Sentences were developed so that the sole differentiating factor was with respect to the reasonableness of belief. All expressed a proposition which was internally plausible or consistent. Sixty-four British undergraduates were assigned to read pairs of sentences, one pragmatic and one non-pragmatic, and asked to paraphrase them. Pragmatic sentences were paraphrased more accurately than non-pragmatic sentences.

FROESE, VICTOR, & KURUSHIMA, SUSAN. The effects of sentence expansion practice on the reading comprehension and writing ability of third-graders. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 95-99.

Assesses the effects of sentence expansion practice on third grade pupils' comprehension of passages written at varying levels of syntactic complexity. An experimental sentence expansion treatment and three comparison treatments were administered to pupils over a four week period. Prior to treatment, immediately following treatment, and three weeks after the treatment ended pupils were asked to write narrative compositions and to complete cloze tests. Experimental treatment consisted of eight half-hour lessons in sentence expansion techniques designed to elicit particular structures. Comparison treatments consisted of a control class, a group given eight half-hour lessons based on the Directed Thinking Activity

(DRTA) and eight half-hour periods of free time to choose from a number of activities. Participants were 95 grade three pupils from two schools. Two classes in one school were administered either the sentence expansion or the DRTA treatments, while two classes in the other school received the other two treatments. The experimental treatment appeared to have some effect on reading comprehension. After treatment, experimental subjects comprehended a passage written at their productive level and a passage above their productive level equally well. All other groups found the second passage more difficult to comprehend. However, comprehension was only improved up to a certain level of syntactic difficulty but not above that.

FLOOD, JAMES. A system for scoring readers' recall of propositions from texts. In P. David Pearson & Jane Hansen (Eds.) *Reading: disciplined inquiry in process and practice. Twenty-seventh Yearbook of the National Reading Conference*, 1978. Pp. 99-105.

Designs a system for scoring adult readers' recall of non-narrative passages. Two studies were designed to develop the system. In the first study, two adults were asked to read two passages and to introspect on the text as they read. Their observations were used as the basis for creating a scoring system. In the second study, eight freshmen read two passages in two presentation modes: 1) whole passages or 2) additive or sentence by sentence. Subjects received either two complementary, two contradictory, or one complementary and one contradictory passage. After reading each passage or each sentence in the additive presentation, subjects wrote what they could recall of the text. After the additive mode, a summary recall was written. Subjects were then shown a series of 12 cards, each containing a single lexical item. They were asked to sort the cards into two categories: recalled/unrecalled. Subjects were asked to reconstruct the passage by using the cards as cues for recall. The scoring system devised from these procedures is presented.

ROYER, JAMES M.; PERKINS, MARCY R.; & KONOLD, CLIFFORD E. Evidence for a selective storage mechanism in prose learning. *Journal of Educational Psychology*, August 1978, 70, 457-462.

Examines the extent to which a prereading set consisting of knowing who the central character of a passage was (historical figure with affective association or same passage with fictitious name substituted) will influence responses of 156 college students to a post reading association measure. Subjects in the before-famous-person passage label condition made more false positive errors on sentences having high thematic value for that person. Passage label at time of test had little influence on error patterns.

SCHMIDT, SIEGFRIED J. Receptional problems with contemporary narrative texts and some of their reasons. *Poetics*, June 1980, 9, 119-146.

Summarizes some of the results of an empirical study carried out at the University of Bielefeld on receptional problems that arise when people are confronted with contemporary narrative texts. For the main experiment, five texts, different with respect to complexity, were printed as a supplement in a daily newspaper on five consecutive weekends. Interviews relative to the texts were carried out on two days following the appearance in the newspaper. Subjects were 100 subscribers, 100 pupils, 100 students, and 100 workers who had attended a literary course. About 30% of subjects had read the newspaper supplement, 39% had read the title, and about 29% had read the text after having been asked to. Less than 7% were familiar with the names of the authors of the texts. More than half the subjects felt that such texts should be printed in the local paper and that the weekend

supplement was the proper place for them. When asked if they had learned something from the text, 81% replied in the negative. Subjects were asked what they thought the texts were. Responses included a short story (26%), a tale (14.3%), a fragment of a novel (19%), a modern literary text (29.8%), a short crime story (1%), and pure nonsense (14.5%). About 57% of subjects said that they did not think the text told a meaningful and coherent story. When asked to identify the elements missing for the text to be coherent, 28.5% said thematic structure, 13.5% said narrative structure, and smaller percentages gave encyclopedic information, linguistic structure, and stylistic structure. While 39.3% said that they had no difficulty in understanding the text, 58.3% reported that they did have difficulty and 16.5% declared that they had understood nothing at all. Questions devised to find out the reasons for receptional problems identified the following: 1) difficulty with spelling and lack of punctuation in one text (admitted by only 2 out of 80 respondents), 2) claimed to have no difficulty (28%), and 3) do not know (23.8%). Other receptional problems are discussed.

TAYLOR, BARBARA M. Children's and adults' recall of general concepts and details after reading. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 123-128.

Compares the oral recall of 20 fifth graders and 17 college undergraduates after reading expository passages of familiar and unfamiliar content. Passages were 125 words in length and were identified as written on a third grade reading level. Recall was evaluated in terms of major concepts and detail idea units identified with discourse analysis procedure. College students recalled 75% of idea units on the familiar passage and 65% on the unfamiliar passage. Respective fifth grader recall accuracies were 38% and 31%. Qualitative differences between child and adult recall manner were observed.

BLACK, JOHN B.; TURNER, TERRENCE J.; & BOWER, GORDON H. Point of view in narrative comprehension, memory, and production. *Journal of Verbal Learning and Verbal Behavior*, April 1979, 18, 187-198.

Describes the nature and results of two sets of experiments on the influence of point of view as provided by character and location cues or character cues only on the reading of 16 compound sentences under consistent and change conditions. Subjects were undergraduate psychology students, varying in number from 24 to 40 for the various conditions. Sentences with a consistent point of view were read faster, recalled more accurately, and rated as more comprehensible. Subjects rewrote change sentences to consistent form when asked to edit statements. Character plus location cues produced stronger consistency effect than character cues alone.

MILLER, JOHN W., & HOSTICKA, ALICE A. Comprehension: the effects of syntactic ability and logical thinking. *Reading Improvement*, Winter 1978, 15, 289-293.

Compares the responses of fourth grade children, 26 high comprehenders (one-half year above grade norm) with 26 low comprehenders (one-half year below) as normed by the reading comprehension test of the *Iowa Tests of Basic Skills* to criterion tasks of differentiating between sentences of different deep structure meaning and identifying the logical completion sentence statements. Results revealed that the high comprehenders correctly identified a significantly higher number of deep meaning structures, but no notable nor significant differences obtained in identifying logical connectives.

MITCHELL, D. C., & GREEN, D. W. The effects of context and content on immediate processing in reading. *Quarterly Journal of Experimental Psychology*, November 1978, 30, 609-636.

Reports the nature and results of four experiments in which fluent capable college students read different prose texts for meaning at their own rate. N varied from one to 24 subjects for the four experiments. Methodology involved computer display in which extracts from novels were presented via word segments as an on-line visual display. Viewing times or latencies were measured by subject controlled reaction to produce display change. In general, the results indicate that readers pause considerably at the end of clauses and sentences, and that such latency is more related to content difficulty than to syntactical complexity.

LIU, IN-MAO. Separating comprehension from the verification process. *Memory & Cognition*, January 1980, 8, 75-83.

Attempts to separate the comprehension of a sentence from its verification. Two experiments were conducted with freshmen Chinese psychology students as the subjects (N = 29 in Experiment 1 and 17 in Experiment 2). Stimuli in both experiments were: 1) sentence 1, 2) sentence 2, 3) a picture that matches or does not match (verifies) sentence 1 and 4) a picture that verifies sentence 2. By interjecting sentence 2 between the comprehension of sentence 1 and the verification of sentence 1, the comprehension process was separated from the verification process. The dependent variable was the reaction time to verify sentence 1. Previous research on sentence verification indicated that true affirmatives (picture does match sentence) are verified faster than false affirmatives which are faster than false negatives which are faster than true negatives (represented as $TA < FA < FN < TN$). By separating the comprehension and verification processes, a different pattern of verification latencies was found: $TA < FA < TN < FN$. A theoretical model was presented to account for the different findings of this experiment and also previous findings.

IV-11 Oral reading

DOYLE, MARY ANNE, & FRIEDLAND, ELLEN S. The relation of reading strategy to beginning reading achievement. In Walter T. Petty & Patrick J. Finn (Eds.) *From childhood through adolescence: what is basic in language arts. Fifth Annual Conference on Language Arts*, (Conference Report No. 5), State University of New York at Buffalo, 1980, Pp. 39-46.

Analyzes the oral reading behaviors on the *Gray Oral Reading Test*, administered to 15 children at the end of first grade. These children were part of a larger sample involved in a four year longitudinal study. The 15 subjects were selected on the basis of their second grade performance on the *Gates-MacGinitie Reading Test*, Comprehension. Five subjects read at an above average level (3.8 or higher), five read at an average level (2.6 to 3.4), and five were below average (1.8 or below). The mean *Peabody Picture Vocabulary Test* IQ of the 15 subjects was 101. An analysis of the errors of each group was conducted. Approximately 55% of the errors of both below average and average readers were aids, 44% were substitutions, and fewer than 2% of the errors were mispronunciations. For these two groups, between half and two-thirds of the substitutions were contextually acceptable. The good readers differed markedly from the other two groups. Only a third of their errors were aids and 39% were mispronunciations, (contrasted with 2% for the other groups). They had only 24% substitutions, half of which were contextually acceptable. The results indicated that above average readers do differ in their oral reading strategies from average and below average readers.

BEBBE, MONA J. The effect of different types of substitution miscues on reading. *Reading Research Quarterly*, 1980, 15(3), 324-336.

Examines the effects of different types of oral reading miscues on reading comprehension and retelling. Specifically, the research focuses on three types of substitution miscues: 1) substitutions that are corrected, 2) syntactically and semantically acceptable substitutions and 3) syntactically and semantically unacceptable substitutions. Subjects were 46 fourth grade urban boys selected from 62 boys because they were able to read at or above the 4.0 grade level on the *Guthrie-Siefert Maze Task*. The *Reading Miscue Inventory* was used to classify oral reading errors and to establish retelling comprehension scores. General reading comprehension achievement was measured with the *Canadian Test of Basic Skills*. Subjects' oral reading of the passage and retelling were audio taped. It was found that while substitution miscues generally detracted from comprehension and retelling, not all substitutions detracted equally. Corrected and acceptable miscues added to the understanding of the passage and only unacceptable miscues detracted from understanding. Further, it was found that the corrections and acceptable miscues were important common predictors of reading comprehension and retelling ability.

DONALD, D. R. Effects of illustrations on early oral reading accuracy, strategies and comprehension. *British Journal of Educational Psychology*, November 1979, 49, 282-289.

Presents two passages of equal difficulty with and without a line illustration to 20 average second grade readers. Both stories were 66 word selections with a reading grade level of 1.9. One group of subjects (a randomly chosen half) read orally story B first, without an illustration, then story A with the illustration. The other group read story A first, without a picture and then story B, with a picture. Children then recalled as many ideas as they could remember, and answered three inference questions. Oral reading was audio taped. Stories with illustrations were read more accurately, although there was an unexpected group $\times$ illustration interaction. On the oral reading of illustrated passages the errors were significantly more syntactically, semantically, and graphically acceptable, and more often corrected. The number of ideas recalled was also significantly higher when passages were illustrated. There was no significant difference between illustrated and unillustrated passages in number of inference questions correctly answered.

GONZALES, PHILLIP C., & ELIJAH, DAVID. Stability of error patterns on the informal reading inventory. *Reading Improvement*, Winter 1978, 15, 279-288.

Compares the oral reading errors (miscues) on the first reading of passages (one at pupil's instructional level, one at the frustrational) to the oral reading errors on a rereading of the same passages. The purposes were to determine if the number of errors and the use of context clues changed from first to second reading. Subjects were third graders screened on the *Standard Reading Inventory* and found to be reading (instructionally) between the 2.75 and 4.25 grade level. The test was also used to identify frustrational reading level. Each child read, orally, extended passages at the instructional and frustrational level, and then immediately orally reread the passages. The taped recording of oral readings were analyzed using the *E-S-R Error Analysis*. Although there were fewer errors on the rereadings, there were errors made that were not made on the first reading. The patterns of errors remained consistent, however, indicating a consistency in word recognition strategies. Rereading had little effect on subject's ability to use context clues. The authors questioned the procedures of many oral reading diagnostic tasks.

LESLIE, LAUREN, & OSOL, PAT. Changes in oral reading strategies as a function of quantities of miscues. *Journal of Reading Behavior*, Winter 1978, 10, 442-445.

Studies changes in oral reading miscues as a function of the quantity of miscues. Subjects were 30 eighth graders with a mean reading grade level on the *Iowa Test of Basic Skills*. Total Reading, of 10.0. Subjects read passages at sixth, eighth, eleventh, and thirteenth grade into a tape recorder, one passage per day. Immediately after oral reading, reading comprehension was measured by administering the same passage as a cloze task. Children reading with 95-99% accuracy tended to make nonsense errors on unfamiliar words. Usually, the passages were well above the grade level of the student, and the words misread were outside the students' experiential range. Children reading at 90-94% accuracy omitted unfamiliar words. There was little relation between cloze comprehension and oral reading accuracy. Results were interpreted to mean that children reading materials with less than 5% errors make more efficient use of all the cueing systems in reading.

DEWITZ, PETER. Criterion-referenced tests and the reading miscue inventory: re-evaluating diagnostic procedures. In Malcolm P. Douglass (Ed.) *All things considered . . . Reading, the process of creating meaning for sensed stimuli. Claremont Reading Conference 41st Yearbook*, 1977. Pp. 148-158.

Argues that the diagnostic procedures used reflect the diagnosticians point of view and that they affect the test used in diagnosis. Using the *Reading Miscue Inventory* (RMI) this study compares the oral reading strategies of 25 "poor" reading and 25 "good" reading fifth graders; good and poor readers were identified with the *Stanford Reading Test*. The level of the material read orally was not indicated. Two trained raters scored the oral reading protocols. Percentage scores were reported for graphic similarity, sound similarity, comprehension, and grammatical relationships. Although no statistical comparison was made, the author reports that the reading miscues of good and poor readers did not differ on the RMI. These data are used as a basis for critiquing the RMI in light of other research indicating that the reading strategies of good and poor readers do differ. Also critiques the Wisconsin Design for Reading Skills Development.

SCHLIEPER, ANNE. Reversal and sequence errors in a meaningful text. *Reading Improvement*, Spring 1980, 17, 74-79.

Utilizes oral reading miscues to examine the extent and nature of 1) letter reversals, 2) word reversals and 3) letter sequence errors. The subjects were 71 first graders, 94 second graders and 72 third graders from three inner city Montreal schools. These schools were designated as "very underprivileged" or "underprivileged." Subjects read the first four paragraphs of the *Gates-McKillop Reading Diagnostic Tests*. The author presents descriptive statistics for each of the three types of errors for grade levels, good and poor readers at each grade level, and total group; but no comparative statistics are given. For the total sample, only 8.1% of all oral reading errors could be classified into the three orientation error categories studied (3.5% letter reversal, 2.8% word reversal, 1.8% letter sequence error). There appeared to be a gradual decline in each of these errors from first grade to third grade, but the decline is small since first graders only made 9.2% errors of this type (compared to 4.1% for third graders). Letter reversals seemed most common when the word was both unfamiliar and contextually ambiguous. All word reversals resulted in real words, did not appear to be random, and seemed to occur in a grammatical situation in which the reversed word was more common than the text word. Sequence errors were disproportionately common to first graders. Most of these errors occurred on words that were not easily identified from context and were the result of attempts to sound out the word. The author contrasts her study of contextual oral reading errors to other studies using isolated word lists as the data base.

DUBOIS, DIANE M. Getting meaning from print: four Navajo students. *The Reading Teacher*, March 1979, 32, 691-695.

Analyzes the oral reading miscues of four Navajo children. English was a second language for these four pupils. Oral reading samples were collected from two children in second grade and again in fourth grade, and from the other two pupils when they were in fourth grade and again in the sixth grade. The oral reading protocols were analyzed using miscue analysis. The overall results showed that 57% of these reader's miscues were syntactically acceptable and that only 32% were semantically acceptable. No comparisons between grades were reported. Students were also reported to be better able to retell culturally relevant stories than basal stories.

CHRISTIE, JAMES F., & ALONSO, PATRICIA A. Effects of passage difficulty on primary-grade children's oral reading error patterns. *Educational Research Quarterly*, Spring 1980, 5, 41-49.

Investigates the effects of passage difficulty on the quantity and quality of oral reading errors made by first and third graders. Subjects were 17 first and 17 third graders who were able to read orally material at their grade level with 95% accuracy and 75% comprehension (instructional level). Six 300-word passages, varying in readability from 2.1 to 6.0 were taken from basals. Children read aloud until they reached frustration level, 90% word recognition or 50% comprehension. Subjects' error patterns on this frustration level passage were compared to error patterns on their instructional level passage. Two methods of error analysis were employed: quantitative analysis which involved counting the number of each error type; and qualitative analysis, which included variables such as graphic similarity and acceptability in context. Results showed that passage difficulty and grade level had little effect on quantitative error patterns. Both variables did, however, have significant effects on qualitative error patterns. Implications of findings were also discussed.

ISAKSON, RICHARD L. Interdependency between comprehension and decoding in oral reading. *Reading Improvement*, Fall 1979, 16, 230-233.

Tests the hypothesis that readers who differ in comprehension ability, but are similar in decoding ability, differ in their ability to read words in sentence context. Forty-eight children at each of grade levels two through six were selected on the basis of performance on the *Iowa Test of Basic Skills*. The 24 high comprehenders at each grade level were pupils whose reading vocabulary scores were within ± 5 months of actual grade placement, but whose comprehension scores were five months or more above grade level. The 24 low comprehenders at each grade level met the same vocabulary score requirements, but scored five months or more below grade level in comprehension. The oral reading tasks were four simple declarative active sentences for each grade level. Children read only the four sentences at their grade level. At every grade level, good comprehenders made significantly fewer oral reading errors than poor comprehenders, in spite of the fact that both groups demonstrated equal skills in reading vocabulary words on the Iowa. The author concluded that oral production during oral reading is based on semantic representation rather than a phonological code.

CLEMMER, EDWARD J.; O'CONNELL, DANIEL C.; & LOUI, WAYNE. Rhetorical pauses in oral reading. *Language and Speech*, October/December 1979, 22, 397-405.

Rates the quality of oral presentations and examines the use of pauses in oral reading by three groups of speakers. The speakers were ten church lectors who

had no technical training in communication or theater arts, and ten advanced students of theater arts. Subjects read St. Paul's "First Letter to the Corinthians." Half the subjects were given additional information about the character of Paul and five minutes rehearsal. Subjects then gave their reading behind a podium as if they were addressing a small group of friends. The readings were taped and evaluated by two professors of theater, the first two authors and five sets of five undergraduate judges. Readings were evaluated for reading mechanics, clarity and emotion. Drama students used both faster articulation and speech rates and fewer silent pauses than church lectors. The advanced drama students also used a greater number of longer silent pauses than the other two groups. Both expert and nonprofessional evaluations showed preference for readings by the advanced drama students and then the beginning drama students over the church lectors.

PAGE, WILLIAM D. Oral reading error correction behavior and cloze performance. *Reading World*, December 1979, 19, 168-178.

Examines the relation between seven measures of oral reading error correction procedures and cloze comprehension. Subjects read orally a 251 word passage with a Fry readability of 5.1, and then immediately took a cloze test on the same passage. Every fifth word was deleted in the cloze test. Oral reading was audiotaped. Three types of correction behavior were counted: 1) SC-percent of successfully corrected miscues, 2) UC-percent of unsuccessfully corrected miscues and 3) NC-percent of total miscues not corrected. From these three counts, four other measures were derived: 4) RCBI-SC/percent of uncorrected semantically acceptable miscues, 5) RCB2-SC/NC, 6) RCB3-SC/(NC = UC) and 7) RCB4-SC/UC. Subjects were 12 pupils from each of grades 2, 3, 4 and 6 in one urban school. Teachers ranked the children in their classes and two boys and two girls closest to each quartile were selected from each grade. Product-moment correlation coefficients between the seven correction measures and cloze for all subjects ranged from -.15 to .35. Partial correlation coefficients adjusted for grade level effects ranged from -.13 to .29. Only two product-moment and two partial correlation coefficients were significant.

RAISNER, BARBARA. Adult reading strategies: do they differ from the strategies of children? *Reading World*, October 1978, 18, 37-47.

Uses miscue analysis and retrospection to investigate the reading strategies employed by adults in the oral reading of four types of content materials. Subjects were 14 older black college students designated as non-proficient in reading on the basis of a standardized test. They were asked to read orally selections from three of four college texts. Texts were in sociology, political science, chemistry, and psychology. The oral reading was taped and marked for miscues. Subjects related the information in the selection immediately following the oral reading, and then listened to the tape and commented on miscues. The analyses revealed that subjects 1) relied heavily on graphophonic information, particularly in the more difficult selections; 2) were less competent in the area of syntactic cues than their CA would have suggested; and 3) used semantic cues somewhat, but tended to exhibit an inadequate sense of syntactic relationships. Retelling scores were low for all subjects. Retrospective information indicated a lack of awareness of syntactic cues.

DESANTI, R. J. Cue system utilizations among older readers. *Educational Gerontology*, July/September 1979, 4, 271-277.

Describes the procedures and general results of a miscue analysis of word and sentence reading behavior for an unstated number of adults, ages 62 to 82, orally reading two versions of narrative historical selections of seventh to ninth

grade readability. Writing style of the two versions was classified either as emotive and abstract or nonemotive and concrete. The subjects tended to use the same cue systems regardless of selection style and produced a relatively high percentage (65%+) of miscues on both selections. The number of miscues had little relationship to comprehension scores.

SCHLENDER, ANNA-MARIE. Are oral reading tests fair to black students? In Gwyn Enright (Ed.) *Proceedings of the Twelfth Annual Conference of the WCRA* (Western College Reading Association), 1979, Pp. 31-35.

Examines the difference between oral and silent reading test scores to see if a possible bias exists that penalizes black speakers. The subjects were 17 students (11 male, 6 female) enrolled in a reading improvement class. Subjects were administered the *California Achievement Test* (CAT) and the *Spache Diagnostic Reading Scales*. Errors counted during oral reading were: omissions, additions, substitutions or mispronunciations and repetitions. Dialect mispronunciations were not counted as errors. On the Spache, scores ranged from 1.8 to 8.5 and the average score was 5.21. The average comprehension reported was 60% (a recomputation indicates that it was actually about 84%). The average CAT score was 9.15. The author argues that dialect caused many of the errors, because black dialect contains many omissions, and omissions are counted as errors. She concluded that oral reading tests are not fair to black students.

FUNKHOUSER, LINDA, & O'CONNELL, DANIEL C. Temporal aspects of poetry readings by authors and adults. *Bulletin of the Psychonomic Society*, November 1978, 12, 390-392.

Analyzes recorded readings of three poems by their respective authors, ten English professors, and ten adults. Recordings were analyzed for expressive or rhetorical use of silent pauses. Length of readings in milliseconds and the number and length of silent or unfilled pauses (UPs) were determined. Minimum UP length was set at 270 msec. Phrase length was defined as the number of syllables between UPs, and speech rate and articulation rate were measured in syllables per second. An analysis of variance technique was utilized to analyze all response measures with a combined control group (professors plus other adults) in comparison with the author. Not one of the 20 measures contributing to the group mean overlapped the author's response measure. Authors read more slowly than did control groups. This was largely a function of greater absolute amount and percentage of UP time. Professors were more like the adult group than the author group on all temporal measures.

HARBER, JEAN R. Influence of presentation dialect and orthographic form on reading performance of black, inner-city children. *Educational Research Quarterly*, Summer 1977, 2, 9-16.

Studies the influence of dialect of presentation on performance on listening, oral reading, and oral reading comprehension tasks. Subjects were a random selection of 90 grade three and 90 grade five black, inner-city children divided into three groups according to degree of bidialectism: 1) High standard English-high Black English (HH)—proficient in both; 2) Low standard English-high Black English (LH)—more proficient in Black English than standard English; and 3) Low standard English-low Black English (LL). Listening comprehension was determined by the *Temple University Informal Reading Inventory* with equivalent forms in standard English and Black English. Oral reading and oral reading comprehension were assessed by equivalent forms of the *Gray Oral Reading Tests* prepared in standard English, Black English standard orthography, and Black English non-

standard orthography. For the listening task, no significant differences were found among the three groups. Performance was not affected by dialect presentation. No significant differences among the three bidialectal groups were found on any of the forms of the oral reading or oral reading comprehension tasks. However, subjects scored significantly higher on the Black English standard orthography form of both tests than on the standard English form. Subjects scored significantly higher on the standard English form than on the Black English nonstandard orthography form.

GRAVES, MICHAEL F., & FURNISS, DAVID W. The application of signal detection theory to reading. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 261-265.

Examines the relationship between signal detection theory and reading behavior. Subjects were 30 undergraduate volunteers randomly divided into two groups. Materials consisted of a 300 word passage, two sets of instructions, and a ten-item multiple-choice test. Within the passage, 10% of the words, selected on a random basis, were altered so that all letters except the first were deleted. One set of instructions was designed to have subjects emphasize correct pronunciations, and the other set was designed to have subjects emphasize smooth, natural reading with no hesitations over words. No reference was made to the comprehension test that was to follow. Subjects' oral reading was taped, and the test was taken without looking back at the passage. Scores were given for the number of Misses (omissions or hesitations), the number of False Alarms (mispronunciations), time required to read the passage, and the number correct on the comprehension test. The group instructed to read smoothly and naturally produced significantly fewer misses and significantly more false alarms than did the group instructed to emphasize correct pronunciation. Instructions to read smoothly and naturally also produced a faster reading time. However, comprehension scores for the two groups were identical. The authors conclude that signal detection theory is applicable to investigations of reading.

UMEDA, N., & QUINN, A. M. S. Some notes on reading: talkers, material and reading rate. *Journal of Speech and Hearing Research*, March 1980, 23, 56-72.

Describes a method of estimating an individual's oral reading rate from a short sentence sample of his speech. Reading rate was determined by measuring the speaking portion of a considerable amount of reading, and dividing it by the number of phonemes in the material. Fifty-eight sentences containing 15 words or less were selected out of 108 sentences read by four individuals. The ratio of unstressed to stressed syllables and the number of syllables per occurrence of terminal lengthening were calculated for each of the 58 sentences. Sentences with both of these values in the middle range were considered to have an average phoneme duration close to the grand mean. The prediction was compared to actual readings by four talkers, with 83% agreement.

IV-12 Rate of reading

RANKIN, EARL F. Rate of comprehension flexibility—a new measurement procedure. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 266-273.

Presents a new technique for constructing tests of reading flexibility. Eleven passages from the *Degrees of Reading Power Test* (DRP) were selected ranging in readability from 2.8 to 18.0. A total of 44 grade six pupils were instructed to read the items, fill in the modified cloze-type blanks, and time themselves on the items. Flexibility coefficients were then determined for each pupil by determining the correlation coefficient between the readability score for each passage and the rate of comprehension for each passage. The average flexibility coefficient for the group was $-.27$ with a range for individuals from $-.90$ to $.82$. Thirty pupils showed negative correlation coefficients or conventional flexibility, while 14 demonstrated positive coefficients or negative flexibility. Pupils with conventional flexibility had a mean comprehension score of 74% as opposed to a score of 54% for those reading with negative flexibility. For readers with conventional flexibility the author concluded that no significant relationship existed between the rate with which they read passages and solve comprehension problems and their comprehension of the passages. However, for pupils reading with negative flexibility, there is a tendency for those with the slowest comprehension rate to have the highest comprehension scores.

CHANG, SHOU SHAN, & HANNA, GERALD S. Reliability of reading rate tests as a function of warm-up passage and time limit. *Reading World*, March 1980, 19, 232-238.

Investigates the effects of warm-up passages and longer time limits on reliability of reading rate measures. Subjects were 300 eighth-grade and 284 eleventh-grade students, with half the students in each grade assigned to each of two groups. The first group had a one-minute-per-passage time limit and the second group had a two-minute-per-passage time limit. Two rate tests were developed and cast into six forms of identical content, but with the passages appearing in every possible sequence. Findings based on analysis by ordinal position of selections and effect of time limits revealed inconsistent results in the combination of both warm-up passages and longer time limits. Correlation coefficients were more improved between the second and third administration rate scores for the eighth grade sample than for the eleventh grade sample. Two minute rate measures were more reliable for the eleventh grade sample than for the eighth grade sample.

RUPPEL, GEORGE. Self-management and reading rate improvement. *Journal of Counseling Psychology*, September 1979, 26, 451-454.

Investigates the effects of persistent self-managed practice on reading rate improvement. The reading rate and comprehension of each of the 204 college study skill students was assessed by use of the *Robinson-Hall Reading Tests* in a test-retest situation. Two treatment periods (six and eight weeks) and four treatment conditions were employed: improvement-contingent reinforcement, performance-contingent reinforcement, monitoring-control, and no-treatment control. All three self-management treatment groups performed significantly better on the retest than the no-treatment control group. Of the three treatment groups, the performance-contingent reinforcement resulted in significantly higher improvement than either of the other two treatments. Significant overall effect was obtained for the interaction of length, sex, and type of reinforcement.

GRAESSER, ARTHUR C.; HOFFMAN, NICHOLAS L.; & CLARK, LESLIE F. Structural components of reading time. *Journal of Verbal Learning and Verbal Behavior*, April 1980, 19, 135-151.

Examines the distribution of cognitive resources among seven components of reading: microstructure components (words, syntactic processing, and propositions) and macrostructure components (new argument nouns, passage familiarity,

and passage narrativity), and a seventh component, serial position. In the first experiment, 24 college students read 12 passages, each of which was segmented into sentences. Sentences were presented on a display scope by a computer, which recorded reading times for each sentence. Multiple regression analysis revealed the three macrostructure variables accounted for nearly four times the amount of predicted variance than did the microstructure variables. However, the difference between fast and slow readers was determined by the microstructure variables. In the second experiment, 36 college students were given the same materials and followed the same procedure as in the first experiment, with the difference that they were instructed to read for different purposes: one-half of the subjects were to be given an essay test over the content, while the other half was to be given a multiple-choice test. The results of the second experiment indicated that reading for different purposes has a substantial influence on macrostructure processing but not on microstructure processing.

JACKSON, MARK D., & MCCLELLAND, JAMES L. Processing determinants of reading speed. *Journal of Experimental Psychology: General*, June 1979, 108, 151-181.

Presents, in two experiments, adult subjects differing in reading rate, with a number of reaction time tasks: 1) Sensory tasks: letter separation and single letter threshold tasks; 2) Matching tasks: responding same or different when pairs of patterns, letters, synonyms and homonyms were exposed; 3) Other tasks: a letter searching task and a letter memory task (similar to digit span); and 4) General Performance tasks: the verbal and quantitative aptitude tests of the *School and College Aptitude Test* and a listening comprehension test. Reading rate was determined by multiplying rate in w.p.m. times the number of questions answered correctly when reading one long (4,286 words) passage and each of 10 short (317 words) paragraphs. Fifty-two paid college students were originally tested and the 12 fastest readers and the 12 lowest average readers were selected as subjects. The faster readers did not perform significantly faster on any of the Sensory tasks. On all Matching tasks, faster readers responded more quickly than average rate readers. Faster readers also performed better on Other tasks and on General Performance tasks. Regression analyses indicated that percentage correct on listening tasks, reaction time for correct responses in the letter matching tasks, and accuracy on the homonym matching tasks accounted for 77% of the variance in the long passage test and 74% in the short paragraph tests. The results were interpreted as supporting the conclusion that fast readers are not necessarily superior in sensory skills but rather, are able to obtain more information from each fixation by assessing more quickly the letter codes from print than average rate readers.

IV-13 Other factors related to reading

BERRY, STEWART. Monitoring student achievement for accountability: the demonstration of a model. *Journal of Educational Research*, July-August 1975, 71, 308-313.

Demonstrates with achievement test and IQ data for 208 students a procedural model that schools can apply to assess, guide, and account for the progress of its students and to analyze its own effectiveness. Form S of the *Comprehensive Test of Basic Skills* (CTBS) was administered to all the sixth graders in a small city. In eighth grade, these same pupils were given Form T and the *Short Form Test of Academic Aptitude*. The average IQ score was 106. The differences between the sixth and eighth grade expanded standard scores on the CTBS were calculated for

each of the 15 subtests. Subjects were then divided on IQ into two groups: below 104 and 104 and above. Multiple regression analyses of test scores between grades identified factors associated with grade eight achievement. There were minimal achievement differences between sexes and the differences between grade six and grade eight achievement were greater for mathematics than language. There was also a widening of the difference between high and low IQ students from grade six to eight. In the multiple regression for the total samples' grade eight scores, using grade six measures and IQ as predictors, the most prevalent predictors were reading, reference skills, IQ, and social studies.

LEZOTTE, LAWRENCE W., & PASSALACQUA, JOSEPH. Individual school buildings: accounting for differences in measured pupil performance. *Urban Education*, October 1978, 13, 283-293.

Represents an attempt to identify and estimate the effects of schools on academic performance. Pupil achievement data from 20 urban elementary schools were utilized for a total random sample of about 2,500 pupils in grades two through six. Achievement data from two school years were collected from scores on the *Iowa Test of Basic Skills* and subjected to a multiple linear regression analysis. An examination of reading and math scores for the two successive years indicated that 1972 reading achievement scores accounted for 25% of the variance in 1973 scores; for math, the same procedures indicated 23% of the variance accounted for. These data were then used to provide a baseline for determining individual building effects. Knowledge of school building attended accounted for about 22% of the variance in reading scores and 21% of the variance in math scores. Further analyses indicated that the combination of previous achievement and knowledge of school attended accounted for about 40% of the variance in both reading and math scores. The authors concluded that the findings showed that individual buildings accounted for a significant amount of the variance in measured pupil performance.

RUDELL, ROBERT B. Early prediction of reading success: profiles of good and poor readers. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 150-158.

Attempts to identify variables during the primary grades that may be predictive of literacy achievement in grades 8, 9, and 10. Tests were administered to 522 students enrolled in kindergarten and grades 1, 2, and 3 in 1970-71. In 1977-78, 132 of these students were tested when they were in grades 8, 9, and 10. From these, useable data were available for 95 subjects. The 1971 tests were the appropriate levels of: The *Metropolitan Readiness Tests* and the *ETS Cooperative Primary Tests of Reading Comprehension*. SES data were also collected. In 1977-78, the measures were: total reading, vocabulary, comprehension and total language scores of the *California Test of Basic Skills*; measures of attitudes toward reading using the *Estes Attitude Scale*; writing samples; grade point average in seventh grade English; and an oral language rating by teachers. Simple correlations were not reported, only Betas and R^2 's. The R^2 's for grade 8, 9, and 10 total reading were .40, .59 and .47, respectively, in all three cases accounted for by grade 1, 2, or 3 SES and listening performance. In general, primary grade measures of SES and listening ability were better than primary grade measures of reading comprehension and word analysis skills in predicting total reading performance in grades 8, 9, and 10.

CLARK, DAVID L.; LOTTO, LINDA S.; & MCCARTHY, MARTHA M. Factors associated with success in urban elementary schools. *Phi Delta Kappan*, March 1980, 61, 467-470.

Examines the factors associated with urban schools that demonstrate exceptional levels of success. Data were collected by reviewing over 1,200 studies and personal interviews with leading researchers and writers on urban education. Three types of data were generated from these sources: 1) case studies, 2) research studies and 3) observations and generalizations. These were compared and synthesized into a set of generalizations about what causes exceptional performance in urban elementary schools. The data generated focused on the following variables generally thought to influence school performance: leadership, personnel, finance, curriculum and instruction, resources and facilities, and community. Twelve generalizations concerning aspects of these six variables were presented. Leadership style, staff development, reduced adult/child ratios, special funding, emphasis on math and reading, and parental involvement were strongly associated with success. Leader attitude toward urban education, structured learning environments, individualized instruction, and specificity of project goals were modestly associated with success. Resources and facilities showed no association. General conclusions for improving urban elementary schools were given.

SMITH, CHRISTINE C. The relationship between teacher-pupil interaction and progress of pupils with reading disabilities. *Reading Improvement*, Spring 1980, 17, 53-65.

Examines the relationship between spontaneous verbal-teacher-pupil interaction and pupil progress in reading. The subjects were 38 boys attending a special clinic school for children with reading problems and the seven teachers in the school. Teacher-pupil interaction was assessed in one two-week period with a modified *Flanders Interaction Analysis Category System*, and recorded by the *Esterline-Angus Time Event Recorder*. Reading was measured with the *Gilmore Oral Reading Test*, the *Wide Range Achievement Test*, and the *Gates-MacGinitie Reading Tests*. Teacher praise, flexible teacher verbal behavior, task orientation, and teacher questions, and teacher acceptance of pupil feelings were significant predictors of reading growth.

OTTESON, JAMES P., & OTTESON, CAROL RODNING. Effect of teacher's gaze on children's story recall. *Perceptual and Motor Skills*, February 1980, 50, 35-42.

Designs two studies to determine the effect of presence or absence of teacher's gaze on the story recall performance of primary school children. In the first study, 10 first-grade girls and eight first-grade boys were randomly placed into groups of four with the two extra girls forming a fifth group. In each group, one boy and one girl received eye contact from the teacher during a story telling period, while the other two children received no eye contact from the teacher. For a second story-telling period, gaze conditions were reversed. Afterward, children were individually asked to respond to 13 items related to the story. A significant interaction was found between gaze and sex. Boys in the gaze condition performed better than did boys in the no-gaze condition, but no differences were noted for girls. In the second study, a total of 28 kindergarten and first-grade children were used. Procedures were essentially the same. Again, boys in the gaze condition performed better than boys in the no-gaze condition. For girls, a differential performance was noted as a function of the story.

CORNO, LYN. A hierarchical analysis of selected naturally occurring aptitude-treatment interactions in the third grade. *American Education Research Journal*, Fall 1979, 16, 391-409.

Examines the incidence of naturally occurring aptitude-treatment interactions (ATI) in real classrooms. Participants were 33 third grade teachers and their 840 middle to upper-middle class third grade pupils. Aptitude and outcome mea-

asures collected at the beginning and end of the school year included: the vocabulary subtest of the *Cognitive Abilities Test*, the odd-numbered items of the Reading Subscales of the *Metropolitan Achievement Test* (at the end of the year, the even numbered items), the *Raven's Standard Progressive Matrices*, Sets A-E, and the *Children's School Questionnaire*. Using a modification of the *SRI Classroom Observation Instrument*, structuring behaviors (stating goals, marking important points, summarizing, reviewing) and participation demands (e.g., asking questions, probing) were obtained for each teacher for eight full days. For each of 637 children, 4 five-minute child-focus observations were obtained. Several psychologically meaningful ATI were found that were consistent with prior research (e.g., demanding higher levels of participation of children high in anxiety was significantly related to reading achievement). Concludes that ATI do occur in natural settings and that they do affect achievement.

WHITING, SALLY ANITA, & JARRICO, SYLVIA. Spelling patterns of normal readers. *Journal of Learning Disabilities*, January 1980, 13, 40-52.

Asks what percentage of sight words normal readers spell correctly and what kinds of spelling errors are made on those words. Subjects were 104 elementary school children who scored between 90 and 110 on the *Lorge-Thorndike Intelligence Tests*, had consistent grades of "B" or "C," and were performing satisfactorily at grade level. Subjects were given a list of 20 words at grade level to read. No child made more than five reading errors, and most made no more than two. Children were then asked to spell the words. The average percentage of correctly spelled words at each grade level ranged from 80% to 91% with no child falling below 65% correct. Only four children had less than 70% correct. Errors were then analyzed to see if they were good phonetic equivalents of the pronunciation. Among the total number of misspellings, 90% at grades three and four were good phonetic equivalents; 75% in fifth grade and 82% in sixth grade also were good phonetic equivalents.

YOUNGMAN, M. B. Some determinants of early secondary school performance. *British Journal of Educational Psychology*, February 1980, 50, 43-52.

Seeks to determine what measures or sets of measures in the primary schools have independent effects on achievement or progress in reading or mathematics in the secondary schools. Two samples of British students, a rural one (N = 290) and an urban one (N = 359), were assessed on a selection of biographic, dispositional, and intellectual measures before and after transfer to secondary comprehensive schools. Included in the intellectual measures were assessments of non-verbal reasoning, reading comprehension, mathematical understanding and progress in reading and mathematics. Covariance regression models were used for the main analyses. Correlation coefficients between the biographic measures of age and sex with performance were low. Attitude and personality factors did not show any marked independent effect on performance. Intellectual characteristics showed strong effects, both individually and in association with other intellectual factors. Prior achievement in the same subject had the strongest effect on secondary school performance.

DAVIS, B. GLEN; TRINBLE, C. SCOTT; & VINCENT, DENNY R. Does age of entrance affect school achievement? *The Elementary School Journal*, January 1980, 80, 133-143.

Considers age of school entrance as a factor in school success. Three samples of children were included: 17,000 in grade one; 17,500 in grade four; and 19,450 in grade eight. Subjects were divided into two age groups, five and six-

years-old at the time of school entrance. September 1 was used as the dividing date; all those born on or after that date were considered to be five-year-olds, and all those born prior to then were counted as six-year-olds. Test scores for reading, language, math, and total battery on the *Comprehensive Test of Basic Skills* were analyzed. For the first grade population, mean scores of six-year-olds were significantly higher than those of five-year-olds in all areas. When broken down by sex, the findings were similar; i.e., six-year-old boys and six-year-old girls tended to score higher than their five-year-old counterparts. Girls at grade one scored better than did boys. At fourth-grade level, the patterns of findings was similar to those at grade one in all areas: older entrants outscored younger ones when the total group was viewed as well as when scores were viewed for boys only and for girls only; girls outperformed boys. For eighth graders, a statistically significant difference was observed only in reading achievement scores; again, it favored six-year-old entrants over five-year-olds. When scores were analyzed for sex differences, no statistically significant differences were observed.

MCMICHAEL, PAQUITA. The hen or the egg? Which comes first—antisocial emotional disorders or reading disability? *British Journal of Educational Psychology*, November 1979, 49, 226-238.

Investigates the sequential relationship of antisocial disorders and reading difficulties from readiness testing through the first two years of school for 198 boys in eight Edinburgh primary schools. Most subjects had fathers who were skilled manual laborers. Instrumentation included *Children's Behaviour Questionnaire*, *Thackray Reading Readiness Profiles*, the *Columbia Mental Maturity Scale*, the *Southgate Test of Word Selection*, and the *Southgate Test of Sentence Completion*. Results indicated that antisocial behavior was more apt to be associated with reading disability than was neurotic behavior, was exhibited prior to later reading difficulties, and was associated with poor readiness performance. However, the majority of antisocial children were not poor readers. The results do not support the contention that antisocial behavior is necessarily an outgrowth of reading difficulties.

DOLLY, JOHN P.; BELL, MARGARET E.; REYNOLDS, AMELIA B.; & SAUNDERS, JOSEPH C. The influence of sex and race on the test scores of research subjects exposed to research purpose information. *The Journal of Psychology*, January 1979, 103, 61-65.

Notes different reactions by race and sex to information about the purpose of a research study. Subjects were 286 education undergraduates in 17 classes. Classes were assigned at random to one of three treatment groups which received: 1) positive information which indicated that high scores on dependent variable were desirable; 2) neutral information which provided no expectation, or 3) negative information which indicated low scores were desirable. The *Minnesota Teacher Attitude Inventory* and a student information questionnaire were given to subjects. Results of a one-way ANOVA across the three groups were nonsignificant. Females scored significantly higher than males in all three treatments. Both sexes scored highest in the positive group and lowest in the neutral treatment. There were significant differences between blacks and whites on both the negative and positive information groups. Blacks appeared more likely to conform to the researchers' information than whites in the negative information group.

RODGERS, BRYAN. Feeding in infancy and later ability and attainment: a longitudinal study. *Developmental Medicine and Child Neurology*, August 1978, 20, 421-426.

Secures data on the relationship between bottle feeding in infancy and measures of intellectual abilities obtained at school age. Using interviews from a survey of mothers of infants born in Great Britain during one week in March 1946, it was determined that 1133 survey children were known to have been entirely bottle-fed and 1291 were never bottle-fed. Scores were available for 86.7% of this sample on tests of picture intelligence and mechanical word reading at age eight; scores were available for 80.9% of the sample on reading attainment, non-verbal ability, and mathematical attainment at age 15. Preliminary analyses indicated that those who had been bottle-fed were more likely to have low scores than those who were breast-fed. Breast-feeding was found to be more common in families of higher social-class, in families where either parent had received some secondary schooling, in families where parents showed more interest in the child's primary education, and for older children in a family. Final analyses were carried out for individuals with complete family background information and a birthweight of at least six pounds. This sample consisted of 1464 with test scores at age eight, and 1398 with test scores at age 15. A multiple regression analysis was used to predict test scores from the background factors. The magnitude of the effect of type of feeding variable was reduced by the inclusion of family background variables, but the effect still remained substantial. The bottle-fed group scored between one and two points less than the breast-fed group on scales with a population standard deviation of 10.0 points.

DRILLIEN, C. M.; THOMSON, A. J. M.; & BURGOYNE, K. Low-birthweight children at early school-age: a longitudinal study. *Developmental Medicine and Child Neurology*, February 1980, 22, 26-47.

Follows a cohort of low birthweight children born between 1966 and 1970 intensively during the first one to three years of life and examines them again in school at ages six-and-one-half to seven. Of the original group, 87% or 261 were examined at age 6-8 together with 111 control children. All controls and 248 of the low birthweight children were individually assessed in school. Information on the 13 additional low birthweight children was obtained by questionnaire. Tests administered included the WISC, *Burt-Vernon Word Recognition Test*, *Burt-Inglis Spelling Test*, *Bender-Gestalt Test*, *Goodenough Draw-a-Man Test*, *Test of Motor Impairment*, and the *Bristol Social Adjustment Guide: The Child in School*. Of the low birthweight children traced, 92% were attending normal schools. Those who showed no evidence of early intra-uterine insult and who were neurologically normal in the first year of life tended to be largely indistinguishable from control children reared in similar homes.

HOLCOMB, CAROL ANN. The cloze procedure and older adults: effects of age and schooling. *Educational Gerontology*, July/September 1979, 4, 279-295.

Investigates the relationship between the effects of age and schooling on predicting the readability of printed patient education materials for older adults. Subjects consisted of 84 adults between the ages of 61 and 93 who were divided randomly into three groups. Each subject completed one of three different 50-item cloze test forms. No time limits for completion were imposed. Exact replacements only were scored as correct. Data on age and number of years of schooling were obtained for each subject. With increasing age, there was a decrease in the cloze test score. The coefficients of correlation between the three forms of the test with age were $-.2095$, $-.0336$, and $-.02400$. A significant positive relationship was found between number of years of schooling completed and cloze test scores (.4480, .6958, and .5110). The combined effects of age and schooling accounted for 50% of the variance in the score for one form of the test, but only 23% and 29% for the other two forms.

OWINGS, RICHARD A.; PETERSEN, GAIL A.; BRANSFORD, JOHN D.; MORRIS, C. DONALD; & STEIN, BARRY S. Spontaneous monitoring and regulation of learning: a comparison of successful and less successful fifth graders. *Journal of Educational Psychology*, April 1980, 72, 250-256.

Notes differences between successful and less successful readers in a fifth-grade in reading stories that varied in the degree to which they made sense relative to what pupils already knew. The sample comprised 16 children, identified as successful or less successful readers on the basis of teachers' judgments and scores on the *Comprehensive Test of Basic Skills*. An easy-to-learn story and a difficult-to-learn story were developed around each of four themes. The two versions of each story contained identical words and were identical in length. Subjects were divided into equal number groups by sex and reading ability. Within each group, two children received pairs of stories in which order of difficulty was controlled. Subjects were asked which story of a pair was harder to learn and why, and then were given a memory test for each story. Seven of the successful readers rated the relative difficulty of paired stories accurately. Two of the less successful readers did not rate either of their pairs of stories accurately, and two rated one pair accurately but not the other pair. Successful pupils provided adequate reasons for all their ratings; even less successful pupils who rated the stories accurately had difficulty supplying adequate justification for differences in difficulty. When allowed unlimited study time, successful readers regulated their learning by spending more time with difficult than with easy stories. Less successful readers spent equal amounts of time on the stories.

HILLIARD, O. MARK, & TOLIN, PHILIP. Effect of familiarity with background music on performance of simple and difficult reading comprehension tasks, *Perceptual and Motor Skills*, December 1979, 49, 713-714.

Examines the effect of familiarity of background music on reading comprehension, utilizing 64 college students randomly assigned to eight groups in a $2 \times 2 \times 2$ factorial design (difficulty of test $\times$ familiarity with music $\times$ the music selection). While listening to familiar or unfamiliar selections, subjects completed a section of the *Sequential Tests of Educational Progress*. Reading comprehension scores were significantly higher for the condition of familiar background music than for the condition of unfamiliar music.

GROFF, PATRICK. Can art develop reading ability? *Reading (UKRA)* December 1977, 11, 35-40.

Synthesizes the literature related to the effect of teaching art on the development of reading skills. Only one study was found to support the belief that art can aid in learning to read. The evidence against a positive effect of art on reading development appeared stronger.

RIHN, BERNARD A. Kohlberg level of moral reasoning of protagonists in Newbery Award winning fiction. *Reading Research Quarterly*, 1980, 15(3), 377-398.

Studies the interaction of fiction and judges' characteristics to influence the assignment of a "stage of moral reasoning" score to the protagonist in Newbery fiction. A stratified random sampling yielded 12 books for investigation. The protagonists were evaluated by 21 judges, according to Kohlberg's scale of moral reasoning. The judges' reliability was found to be high regardless of training or sex. Post-1949 books were found to contain higher stages of moral reasoning than pre-1949 books. Male authors included higher moral reasoning in their books than did female authors, and male protagonists were found to resolve dilemmas at higher moral stages than female protagonists.

POLIVY, JANET, & DOYLE, CATHERINE. Laboratory induction of mood states through the reading of self-referent mood statements: affective changes or demand characteristics? *Journal of Abnormal Psychology*, April 1980, 89, 286-290.

Reports results of an experiment to test mood-induction techniques from an earlier report. The five groups in the original study were replicated and two additional counter demand groups were given different instructions accompanying the mood statements. The 77 female college students who served as subjects were randomly assigned to one of seven experimental conditions: Velten elation, Velton depression, Velten neutral, Velten elation and depression demand conditions, and elation and depression counter-demand conditions. After reading the mood-inducing passage and role-playing according to experimental instructions, subjects completed two separate *Multiple Affect Adjective Check Lists*, a time estimation task, a measure of graphic construction and expansiveness, and a four letter anagram task. Results of analysis of variance suggested that demand characteristics significantly influence the outcome of mood-induction techniques.

LEGENZA, ALICE, & KNAFLE, JUNE D. The effective components of children's pictures. *Reading Improvement*, 1979, 16(4), 281-283.

Proposes to determine which factors are most salient in separating high from low potency pictures according to the Picture Potency Formula. An average of six pictures from each level of eight first and second grade basal series was randomly selected and classified using the formula. Three factors were found to be present in pictures which elicit a relatively high amount of language (high potency) but not present in low potency pictures: number of actions, number of children, and number of people in the pictures.

FREDRICK, WAYNE C., & WALBERG, HERBERT J. Learning as a function of time. *Journal of Educational Research*, March/April 1980, 73, 183-194.

Groups the research literature related to instructional time into four ranges—years, days, hours, and minutes—and reviews the strength of the association between time and outcome under each grouping. Under each time range heading, the research reviewed is further categorized into various groupings. With some exceptions, time was found to be a modest predictor of achievement. Time used in one classroom can differ markedly from that in another even though the same content is being taught. The authors point out the need to include time as one factor in a theory of educational productivity.

NGANDU, KATHLEEN M. Elementary students' definitions of reading. *Reading Horizons*, Summer 1979, 19, 272-275.

Interviews 418 pupils in grades one to six as to their definition of reading. Responses were classified into three categories: 1) reading as a general activity, 2) reading as a word identification process, and 3) reading as a meaning identification process. The percentage of pupils identifying reading as a meaning identification process increased from 12% in grade one to about 40% in grades five and six. Reading as a general activity decreased from 70% in grade one to 37% in grade six. The proportion identifying reading as a word identification process remained at around 20% through all six grades. No sex differences were noted. A greater percentage of above average readers tended to view reading as a meaning identification process compared to below average readers.

CHARLTON-SEIFERT, JOAN, & STRATTON, BEVERLY DLUGOKECKI. Nutrition and reading. *Ohio Reading Teacher*, July 1978, 12, 36-37.

Cites research on the effect of nutritional deficiencies on reading performance.

DOWNING, JOHN. Linguistic awareness, English orthography and reading instruction. *Journal of Reading Behavior*, Spring 1978, 10, 103-114.

Identifies three alternative descriptions of English orthography, reviews the evidence for each, and discusses their feasibility as a basis for beginning reading instruction. The three views of English orthography identified are the classical, the revolutionary, and an eclectic view.

CULLINGFORD, RICHARD E. Pattern-matching and inference in story understanding. *Discourse Processes*, October/December 1979, 2, 319-334.

Describes the theory, nature, and research implications of the development and products of a computer text-processing system, identified as SAM, which uses setting context scripts and a prestored frame-search and pattern-matcher when reading actual newspaper articles of relative stereotyped situations. Augmenting the script patterns with a set of inference processes establishes low-level connections which tie together the sentences of the story test.

IV-14 Factors related to reading disability

PIROZZOLO, FRANCIS J. *The neuropsychology of developmental reading disorders*. New York: Praeger Publishers (Praeger Special Studies), 1979.

Reviews the history and nature of developmental dyslexia and presents a study of foveal and parafoveal word recognition and saccadic eye movements of normal readers and two groups of disabled readers. In the study, subjects read on a CRT screen, five 3-letter reversible words (e.g., was) that were presented at five locations: 1) in central fovea (the "a" in "was" was placed on the initial fixation point), 2) one degree to the right of fixation (the "w" was on the fixation point), 3) two degrees to the right, 4) one degree to the left (the "s" was on the fixation point) and 5) two degrees to the left. In the second task, eye movements were recorded when subjects read words or symbols that were shown 2, 3, 5 or 10 degrees to the right and to the left of fixation. The last task was a measure of horizontal eye movements while reading two passages from the *Gray Oral Reading Test*. Subjects were 24 boys; eight auditory-linguistic dyslexics, eight visual-spatial dyslexics and eight normal readers. The three groups did not differ significantly in average age (about 11-1) or WISC IQ (about 105). Across the three tasks, the major differences between the three groups were that auditory-linguistic dyslexics differed from normal readers in that they showed no lateral asymmetry for word recognition and that the visual-spatial dyslexics differed from normals in that they showed a general word recognition defect when words were presented in parafoveal vision.

ELTERMAN, R. D.; ABEL, L. A.; DAROFF, R. B.; DELL'OSCO, L. F.; & BORNSTEIN, J. L. Eye movement patterns in dyslexic children. *Journal of Learning Disabilities*, January 1980, 13, 11-16.

Identifies the gross eye-movement reading patterns of five dyslexic seven-year-old children, one normal reading seven-year-old and one normal adult reader. Both vertical and horizontal eye positions were monitored with an infrared recording technique. Subjects read four types of visual material: symbol simulation (a line of X's), and three paragraphs, one below, one at, and one above the child's grade level. Two of the five dyslexics demonstrated a disability with sequential eye movements during symbol simulation as well as during reading. This was interpreted as supporting the contention that a variety of disturbances underlie so-called pure dyslexia. The authors concluded that both vertical eye position monitoring and symbol simulations should be included in all eye-movement studies involving reading.

LOVEGROVE, W. J.; HEDDLE, M.; & SLAGHUIS, W. Reading disability: spatial frequency specific deficits in visual information store. *Neuropsychologia*, 1980, 18(1), 111-115.

Measures visual information store durations for sine-wave gratings in normal and disabled readers. Subjects were two groups of eight-year-olds, 15 to each group, matched on WISC IQ and socio-economic status. The disabled readers had a reading age lag of at least two years on the *Neale Analysis of Reading Ability*. The duration of visual information storage was determined by measuring the time between two successively presented stimuli at which subjects could detect a blank interval between the two stimuli. At low spatial frequencies, disabled readers have significantly longer store durations; at medium spatial frequencies, the two groups do not differ; and at high spatial frequencies, disabled readers have shorter store durations. The analysis suggests that the differences between disabled readers and controls would produce relatively few problems on tasks involving only central viewing and single fixations. Problems would arise primarily with tasks requiring integration of successive fixations involving central and peripheral visual information processing, reading being such a task.

MOSELEY, D. V. Is eye-muscle imbalance a significant factor in the causation of reading and spelling problems? *The British Journal of Educational Psychology*, November 1978, 48, 363-364.

Presents a brief abstract of two studies conducted to determine the relation of eye-muscle imbalance to reading and spelling problems.

ADLER-BRINBERG, DEBORAH, & STARK, LAWRENCE. Eye movements, scanpaths, and dyslexia. *American Journal of Optometry and Physiological Optics*, August 1978, 55, 557-570.

Monitors and compares the oculomotor performance of 25 dyslexic and 19 normal children while reading and while solving pictorial problems. Two types of dynamic eye movements were studied, saccades and smooth pursuits. Dyslexic subjects were referred from a reading and language clinic, were average or above in intelligence, and were having difficulty in reading, writing, and spelling. CA of all subjects ranged between 7-10 and 12-3. When subjects were required to follow a meaningless target or to solve a pictorial task, no differences in eye movements were noted. When subjects were asked to read selections commensurate with their measured reading level, dyslexics exhibited significant differences from normal readers in eye-movement measures. Eye movements of dyslexics were characteristic of younger children still developing reading skill. They evidenced longer fixation durations and smaller fixation spans than normal readers.

FRIEDERICI, ANGELA D., & SCHOENLE, PAUL W. Computational dissociation of two vocabulary types: evidence from aphasia. *Neuropsychologia*, 1980, 18(1), 11-20.

Analyzes the oral reading performance of two distinct types of aphasic patients with both homographic and nonhomographic homophones. A fluent and a non-fluent aphasic adult patient were presented words in isolation and words in sentences to read orally. The isolated words contained 18 nonhomophones (e.g., be, bee) and seven homographic homophones (e.g., I can, the can). Twenty-four sentences were constructed for the sentence reading part of the experiment such that each sentence contained both elements of a homographic pair in their correct grammatical position (e.g., I could not tie the knot, The might of the king might be useful). The two aphasics showed reverse patterns of impairment. In the non-fluent aphasic patient, grammatical items were predominantly disrupted; in the

fluent aphasic, a severe lack of processing lexical items appeared, despite a good preservation of the same sounding grammatical item. The authors feel that the evidence indicates that the two vocabulary types are independent subsets of vocabulary in the mental lexicon.

ERICKSON, MARILYN T. Reading disability in relation to performance on neurological tests for minimal brain dysfunction. *Developmental Medicine and Child Neurology*, December 1977, 19, 768-775.

Proposes 1) to examine the relationship between neurological test performance and CA, MA, and IQ for 155 grade two children, and 2) to compare the neurological test performances of reading disabled children with controls matched on the basis of sex and IQ. All subjects were administered the Slosson Intelligence Test (SIT), the Slosson Oral Reading Test (SORT) and 11 test items assessing minimal brain dysfunction (MBD). Eight reading disabled children were identified by each of three methods: Below Grade-level, Bond and Tinker Expectancy Formula, and the Erickson Z-Score method. The Below Grade-level and the Bond and Tinker methods identified seven out of eight children in common while the Erickson Z-score method identified two children in common with each of the other two methods. The Below Grade-level group received a SORT score 1.6 grades below its control group; the Bond and Tinker group, a SORT score 1.5 grades below; and the Z-score group, a SORT score 3.7 grades below its control group. No significant differences were found between reading-disabled groups and their controls on the neurological variables. The author concludes that it is not feasible to equate reading disabilities with MBD.

SADICK, TAMAH L., & GINSBURG, BENSON E. The development of the lateral functions and reading ability. *Cortex*, March 1978, 14, 3-11.

Postulates the existence of a relationship between ear asymmetry and the acquisition and achievement of reading skills in seven-year-olds, and also postulates that the percentage of good readers who show significant ear asymmetry will increase from ages five to 11. Eighty-one five- and six-year-olds, 68 seven-year-olds, and 26 eight- to eleven-year-old children were given a dichotic listening nonsense syllable task. Results were then compared with reading ability as determined by scores on the *Metropolitan Reading Readiness Tests* (MRRT) for five- and six-year-olds, and scores on the *Gates-MacGinitie Reading Test* for older children. Ear advantage (left or right) was expressed as a dextrality index (DI). Children were divided into good and poor readers on the basis of MRRT or Gates-MacGinitie scores. For seven-year-olds, as reading level went up, mean DI went down. Thus the data demonstrated a relationship between reading test scores and smaller left-right ear differences on verbal dichotic stimulation in the early stages of learning to read. There was a progressive decrease in the percentage of good readers who were ambilateral from ages five to 11, but very little change in percentage of poor readers who were ambilateral. There is, therefore, a trend from ambilaterality to asymmetry in good but not in poor readers.

LINDGREN, SCOTT D. Finger localization and the prediction of reading disability. *Cortex*, March 1978, 14, 87-101.

Examines the relation of finger localization and other verbal and perceptual tasks with first grade reading achievement. Subjects were 50 boys and 50 girls, randomly selected from all kindergarten pupils in one school district. All children were white and predominantly middle class. Test scores gathered during the final month of kindergarten were: 11 finger localization tests, the *Developmental Test of Visual-Motor Intergration*, the *Peabody Picture Vocabulary Test*, and an informal letter naming test. For the 92 students remaining at the end of first grade, reading

and arithmetic ability were assessed by teacher ratings on a seven-point scale. The *Gates-MacGinitie Reading Test*, Primary A, was also administered to 82 of the subjects. Children were rated as adequate, borderline, or poor readers; borderline readers were then reclassified as adequate or poor by Gates comprehension scores, resulting in 19 poor and 73 adequate readers. These adequate and poor readers differed significantly on all measures administered to them in kindergarten, including IQ (108 for poor readers, 118 for good readers). Coefficients of correlation between the kindergarten measures, end of first grade ratings, and Gates-MacGinitie scores were: .41 to .55 for finger localization, .55 to .70 for letter naming, .28 to .52 for Visual-Motor Integration and .20 to .27 for IQ. Adequate and poor performers on the finger localization tasks differed significantly on all tasks, including IQ (110 for poor finger localizers, and 122 for good). It was argued that finger localization predicts reading ability because it is a measure of several important cognitive skills.

WONG, BERNICE. The role of theory in learning disabilities research: Part II. A selective review of current theories of learning and reading disabilities. *Journal of Learning Disabilities*, December 1979, 12, 649-658.

Presents a selective review of current alternative conceptualizations of learning disabilities and reading disability.

KARLIN, ROBERT. Learning disability and reading: theory or fact? In Constance M. McCullough (Ed.) *Inchworm, Inchworm: Persistent Problems in Reading Education*. Newark, Delaware: International Reading Association, 1980, Pp. 103-110.

Review the history of the development of the concept of learning disabilities and discusses some of the research on perceptual motor aspects of learning and reading disabilities.

LINDSEY, JIMMY D., & KERLIN, MARCELLA A. Learning disabilities and reading disorders: a brief review of the secondary level literature. *Journal of Learning Disabilities*, June/July 1979, 12, 408-415.

Provides a review of the literature on learning disabilities and reading disorders at the secondary level. Five major conclusions are drawn from the review. In particular the authors noted the lack of research on the reading characteristics of the secondary learning disabled student and on ameliorating the reading problems of this student.

STRICHART, STEPHEN S., & LOVE, ELAINE. WISC-R performance of children referred to a university center for learning disabilities. *Psychology in the Schools*, April 1979, 16, 183-188.

Compares the WISC-R performance of 40 children ranging in age from 6-6 to 15-10, referred to a university center for suspected learning disabilities, with that of two clinically defined groups of learning disabled children. The 40 subjects were of diverse socioeconomic status. Screening for admission to the university center was based on below grade level achievement in math, reading or spelling, and no indication of mental retardation, physical handicaps or emotional problems. Children classified as learning disabled, enrolled in a learning disabled class, or both were excluded. Students participating in any special education class were excluded. The WISC-R scores of these 40 subjects were compared with the scores presented in two published papers. The university center children were found to have WISC-R profiles similar to those of the learning disabled children, with higher overall levels of performance. It was speculated that these children avoid classification as learning disabled by virtue of possessing higher cognitive abilities than those children who

are so classified. Implications were raised concerning the role of university centers with children experiencing learning difficulties and the accuracy of parental perceptions of learning disabilities.

HOFFMAN, JAMES V. The disabled reader: forgive us our regressions and lead us not into expectations. *Journal of Learning Disabilities*, January 1980, 13, 2-6.

Surveys by questionnaire graduate students and faculty at 25 universities with respect to understanding, uses, and current attitudes toward expectancy formulas as a means of identifying reading disability. A packet of 50 questionnaires was sent to each school. Returns were received from 15 of the 25 schools and 16 completed questionnaires on the average were returned from each respondent (N = 229). Descriptive results indicated that 56% of the respondents had been trained in the use of such formulas, that 62% were unaware of alternate methods for determining reading potential, but that considerable uncertainty existed about what such data mean at the applied level.

SHANKWEILER, DONALD, & LIBERMAN, ISABELLE Y. Exploring the relations between reading and speech. In Robert M. Knights & Dirk J. Bakker (Eds.) *The neuropsychology of learning disorders: theoretical approaches*. Baltimore, Maryland: University Park Press, 1976. Pp. 297-313. (refs. 469-521)

Reports the results of several studies of short term memory in good and poor readers. In the first study, 17 good and 29 poor second grade readers were presented with strings of five upper-class letters, half of which were composed of rhyming consonants and half, of nonrhyming consonants. Subjects were designated as good or poor readers on the basis of scores on the *Wide Range Achievement Test*. Immediate and delayed recall were tested. There were significantly more errors in both groups on recall of rhyming letters (confusable). Good readers were better at recall on nonrhyming (nonconfusable) letters than were poor readers but did not show a clear advantage on the confusable letters. These findings were even sharper for delayed recall than for immediate recall. Two additional experiments were carried out to investigate differences between good and poor readers in level of recall on auditory presentation. The visual and auditory experiments produced similar results. In the auditory experiment as in the visual, the groups differed mainly on the phonetically dissimilar items. The authors suggest that differences between good and poor readers are thus related to their ability to determine and use a phonetic representation and not merely on their ability to recode from script.

ELKINS, JOHN. Empirical evidence for a model of reading disability research. *The Australian Journal of Education*, October 1978, 22, 303-309.

Searches for the existence of homogeneous subgroups within a sample of disabled readers. Subjects came from Grade 1 children enrolled in nine Brisbane, Australia, parochial primary schools. Poor readers were identified by scores on the *Southgate Word Selection Test* and the *St. Lucia Graded Word Reading Test*. The 37 poor readers were then given the *Revised Illinois Test of Psycholinguistic Abilities* (ITPA). Subjects were divided into the following five groups based on their ITPA subtest profiles: Group 1—low psycholinguistic ability; Group 2—above average, especially in Auditory Reception and Sound Blending; Group 3—average psycholinguistic ability; Group 4—average psycholinguistic ability with a marked deficiency in Sound Blending; and Group 5—low psycholinguistic ability, especially in Auditory Closure. A discriminant analysis of the five groups was performed and scores plotted. Groups 1, 2 and 4 were found to be distinct but some overlap was noted between Group 3 and Group 5. The author suggests that the findings support the notion that the heterogeneity of samples has been a major confounding factor in previous research.

MCNUTT, JAMES C., & CHIA-YEN LI, JANICE. Repetition of time-altered sentences by normal and learning disabled children. *Journal of Learning Disabilities*, January 1980, 13, 25-29.

Assesses the effects of various rates of compressed and expanded sentences on the performance of ten learning disabled children and ten normal children to determine whether the auditory difficulties of the children were characterized by deficiencies in processing especially rapid or especially slow speech. The subjects were from Montreal, ranged in age from 8 to 11, and were all reported to have IQs over 85. All children had normal auditory acuity. Children repeated sentences composed of five to 17 morphemes presented at normal rates, at 60% and 30% compression, and at 30% and 60% expansion. The normal children repeated the sentences equally well at all rates and were more accurate than the learning disabled children at each rate. In the learning disabled group, performance was less accurate at the fastest rate but equally accurate at all other rates. (There appears to be an error in the tabled data.) These findings were interpreted as a semantic or syntactic deficit in the processing of rapidly presented auditory material, rather than a deficit in short-term memory.

STEIG, JANET B. What can we learn from poor comprehenders? A review of recent research. *Reading World*, December 1979, 19, 124-128.

Reviews recent literature on poor comprehenders.

LITTLE, DONALD. Amount of material and learning, comprehension, and recall of sentences by normal and learning disabled subjects. *Journal of Research and Development in Education*, 9, Monograph 1976, 111-113.

Compares normal readers' and learning disabled students' ability to learn 2, 4, 6 and 8 sentences, each sentence nine words long. Normal subjects were able to learn a significantly greater number of sentences than learning disabled students, and the amount of learning declined with the increase in number of sentences to learn. There were no interactions between groups and treatments (number of sentences to be learned).

CERMAK, LAIRD S.; GOLDBERG, JUDITH; CERMAK, SHARON; & DRAKE, CHARLES. The short-term memory ability of children with learning disabilities. *Journal of Learning Disabilities*, January 1980, 13, 20-24.

Compares short-term memory ability of three groups of learning disabled children to a group of normal readers. Subjects were 95 children from a school for children with learning disabilities (LD) and 31 normal reading children from public schools. The LD children were divided into three groups on the basis of 15 point differences or greater between the verbal and performance scales of the WISC: 1) high verbal/low performance, 2) low verbal/high performance and 3) verbal equals performance. Groups were also divided into younger (mean age, 10-3) and older (mean age, 13-1) children. Subjects were asked to retain verbal material across distractor intervals ranging from 0 to 18 seconds. None of the learning disabled groups performed more poorly on this task than the normal controls. Furthermore, the older learning disabled children in the high-verbal, low-performance group actually retained somewhat more material than the normal control group. It was concluded that at least on this standard version of a short-term retention assessment task, learning disabled children are not at a significant disadvantage.

PELHAM, WILLIAM E. Selective attention deficits in poor readers; Dichotic listening, speeded classification, and auditory and visual central and incidental learning tasks. *Child Development*, December 1979, 50, 1050-1061.

Compares poor readers and normal readers from the second, fourth, and sixth grades on four tasks chosen to measure the development of selective attention. Subjects were boys from two suburban middle class schools. The poor readers were identified as the worst readers in their grades, normal readers scored above average on the *Stanford Achievement Test*. There were 19 or 20 boys in each group at each grade level. The poor readers performed more poorly than controls on the central, but not on the incidental, portion of an auditory memory task. There were no group differences on either central or incidental portions of a visual memory task. In a speeded classification task, poor readers exhibited a slower rate of information processing than controls, but this difference in rate was not affected by distraction. On a dichotic listening task, poor readers performed more poorly than controls under a variety of conditions; the pattern of differences obtained, however, was not readily interpretable as a function of greater distractibility on the part of poor readers than controls. As a whole, the results did not support the hypothesis that poor readers show deficits in selective attention relative to age-matched normal readers.

MORSINK, CATHERINE; CROSS, DONALD P.; & STRICKLER, JANE. How disabled readers try to remember words. *Reading Horizons*, Spring 1978, 18, 174-180.

Compares learning disabled and non-learning disabled pupils' ability to learn meaningful (pronounceable) letter sequences and non-meaningful (unpronounceable) letter sequences when presented visually and orally. Subjects were 12 learning disabled children who read at least two years below grade level and had word recognition difficulties, and 12 controls who read at or above grade level. The learning disabled (LD) pupils' instructional placement in reading was 1st; the regular class (RC) children's was 4th. Average age was 9-3, for the LD children and 8-7 for the RC children. Meaningful stimuli were the visual and auditory letter memory subtests of the *Monroe-Sherman Group Diagnostic Reading Aptitude and Achievement Tests*. Meaningless stimuli were constructed by the writers. All tests were administered to groups. After the stimuli were exposed or pronounced, the children wrote what they saw or heard. Visual scores and auditory scores were combined. Meaningful sequences were significantly easier to remember, and RC performed significantly higher than LD. There was a significant stimulus x group interaction. The difference between the LD and RC subjects was greater on meaningful stimuli than on meaningless.

BAUER, RICHARD H. Memory, acquisition, and category clustering in learning-disabled children. *Journal of Experimental Child Psychology*, June 1979, 27, 365-383.

Reports the results of three experiments conducted to explore the differences between learning disabled and normal students in elaborative encoding and category clustering in learning acquisition tasks. In Experiment 1, single trial, immediate-free recall of learning disabled and nondisabled children was compared. The primacy effect in learning-disabled children was lower, suggesting that rehearsal or other types of elaborative encoding may be deficient in these children. In Experiment 2, acquisition of randomly presented categorical lists in a multitrial-free recall task was compared in learning disabled and nondisabled children. One-half of each group was required to learn the same number of words (34 per list), whereas list length for the other half exceeded the primacy effect of each child in immediate-free recall to the same degree. When the same number of items was learned, acquisition was slower in learning disabled than nondisabled children. When the number of items varied according to the primacy effect of each child, acquisition of both groups was similar. Clustering was lower in learning disabled than nondisabled

children. In Experiment 3, multitrial-free recall acquisition of categorical lists was examined in a subject-paced task. When the number of words learned exceeded the primacy effect of each child to the same degree, trials to criterion were similar in both groups but, when the children learned the same number of items, learning disabled children required more trials to criterion. Presentation rates were faster in learning-disabled children. Presentation rates were negatively correlated with trials to criterion and positively correlated with clustering and primacy in immediate-free recall, suggesting that study time may be taken up by clustering, rehearsal, and/or other encoding strategies. Deficient elaborative encoding may be responsible for the slower acquisition of learning-disabled children.

TORGESSEN, JOSEPH K.; MURPHY, HARRY A.; & IVEY, CHARLES. The influence of an orienting task on the memory performance of children with reading problems. *Journal of Learning Disabilities*, June/July 1979, 12, 396-401.

Studies the memory performance of reading disabled and normal fourth grade boys under conditions that do and do not facilitate the processing of material that is to be remembered. The average IQ score, measured by the *Culture Fair Intelligence Test for Personality and Ability Testing*, was 104 for the 19 disabled readers; for the 19 normal readers, 105. Average reading achievement, measured by the *Wide Range Achievement Test*, was 2.8 for disabled readers and 6.3 for normal readers. Subjects were given two experimental sessions. In the first, 24 pictures of common objects, six pictures belonging to each of four conceptual categories, were presented to each boy. Subjects were told to study the pictures so that they could be recalled shortly. In the second experimental session (the orienting task condition), 48 hours later, subjects were shown a different set of 24 cards and told to sort them into four groups of things that go together. The two sets of cards were counterbalanced across sessions. The dependent variables were number of words recalled immediately and after ten minutes. In the first situation, normal readers performed significantly better than poor readers on immediate and delayed recall. There was no significant difference on either recall test in the orienting task condition.

TORGESSEN, JOSEPH, & MURPHY, H. A. Verbal vs. nonverbal and complex vs. simple responses in the paired-associate learning of poor readers. *The Journal of General Psychology*, October 1979, 101, 219-226.

Compares the ability of good and poor readers to learn paired-associate lists requiring either verbal or nonverbal responses. For all tasks, the stimuli were simple letter-like shapes drawn on 3 x 5 cards. Four learning tasks or responses were required: 1) verbal/simple—six single syllable words without concrete references, 2) verbal/complex—four CVC trigrams 3) non-verbal/complex—four double element combinations of a sound with a physical motion (e.g., clap-buzz). Subjects were 19 good readers and 19 poor readers, all fourth graders. Average IQ score on the *IPAT Culture Fair Intelligence Test* was 104 for both groups. Reading was assessed on the *Wide Range Achievement Test*. Good readers had average scores of 6.3; poor readers average score was 2.5. The results indicated that good readers learned more overall, but the major differences between groups occurred on tasks requiring verbal responses.

HARBER, JEAN R. Are perceptual skills necessary for success in reading? Which ones? *Reading Horizons*, Fall 1979, 20, 7-15.

Correlates performance on four tests of perception and two tests of reading for normal readers and learning disabled children. The perceptual tests were the *Motor-Free Visual Perception Test*, the *Developmental Test of Visual-Motor Integration*, and two subtests of the *Illinois Test of Psycholinguistic Abilities*, Sound

Blending and Visual Closure. Two subtests of the *Peabody Individual Attainment Test* were used to measure reading: Reading Recognition and Reading Comprehension. Subjects were all tested between late October and early December of their second grade year. The 55 learning disabled children had an average IQ of 99; the 54 normal readers had an average IQ of 114. Second order partial correlation coefficients were calculated, holding IQ and age constant. For normal readers, the intercorrelation coefficients between the perceptual and reading tests ranged from .16 to .37, and six of the eight coefficients were significant. The findings were interpreted as not supporting the view that perceptual deficits are related to reading performance in learning disabled children.

TORGESSEN, JOSEPH K.; BOWEN, CHARLES; & IVEY, CHARLES. Task structure versus modality of presentation: a study of the construct validity of the visual-aural digit span test. *Journal of Educational Psychology*, August 1978, 70, 451-456.

Attempts to determine which of two variables, task structure or modality of presentation, is most important in accounting for performance differences between good and poor readers on the *Visual-Aural Digit Span Test* (VADS). Subjects were 60 fourth-grade boys, all of whom scored between 90 to 120 on the *Institute for Personality and Ability Testing Culture Fair Intelligence Test* (IPAT) and who were categorized as good or poor readers. Poor readers were boys who scored 3.5 or below on the *Wide Range Achievement Test* (WRAT) and were identified by their teachers as having problems in reading. The mean reading grade level for poor readers on the WRAT was 2.5; for good readers, it was 6.3. Subjects were administered four subtests from the VADS plus two tasks involving visual/sequential presentation that had been developed specifically for the study. Differences between the groups were significant only for the Visual-Oral and Visual-Written subtests even though these two tasks were easiest for both groups. Thus it was concluded that task structure was a more potent variable in determining individual differences than was modality of presentation.

AMORIELL, WILLIAM J. Reading achievement and the ability to manipulate visual and auditory stimuli. *Journal of Learning Disabilities*, October 1979, 12, 562-563.

Seeks to provide information on the relationship between reading achievement and the ability to manipulate sequential stimuli within and between auditory and visual modalities. Fifty-two retarded readers and 53 average and above average readers were included in the study. Third graders identified as retarded readers met these criteria: 1) no visual acuity or discrimination deficits, 2) no auditory acuity or discrimination deficits, 3) average in intelligence (WISC, Stanford-Binet, or Slosson Intelligence Test), and 4) retarded in reading achievement. For the average and above average third-grade readers, the first three criteria were identical and they performed average or above in reading on an informal reading inventory. The perceptual tests, administered to all except five absentees, included two tests to assess the ability to manipulate sequential stimuli within the visual and auditory fields and two additional tests to assess the ability to integrate sequential stimuli between the visual and auditory modalities. A significant difference favoring the better readers was found on the test of visual sequential memory for letters.

MARR, MARY BETH. Children's comprehension of pictorial and textual event sequences. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading Research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 104-108.

Seeks to identify differences in good and poor readers understanding of pictorial and textual event sequences. The 36 fourth graders used as subjects in the study were identified as good or poor readers on the basis of vocabulary and comprehension scores on the *Iowa Test of Basic Skills*. Three event sequences were identified. Seven slides per sequence were taken plus two additional slides which were inconsistent with the sequence. One sentence narratives were developed to accompany each slide. Each event sequence contained five pictures or sequences. Each test set consisted of eight items, four of which were old, two of which were new and consistent, and two of which were low fit in that they were inconsistent with the event sequence. Subjects were presented all three events in a fixed order and then given corresponding test items. They were to indicate which test items logically fit with the event sequences presented. Good readers were more accurate at identifying old test items as logically belonging with the event sequences than were poor readers. No ability effect was found for responses to new items. Subjects were less accurate at identifying inconsistent slide pictures than inconsistent sentences. In the picture condition, both good and poor readers had difficulty identifying new inconsistent items as not belonging. Good readers were accurate at making belonging decisions in the text condition; poor readers had difficulty identifying inconsistent sentences.

GOLDSMITH, JOSEPHINE SPIVACK, & PECK, CYNTHIA VAN NORDEN. The effects of imagery on word perception and comprehension of college readers. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 168-173.

Explores the effects of imagery on word perception, literal comprehension, and critical comprehension. Thirty-two undergraduate students, identified as good and poor readers, served as subjects. Subjects were presented with materials at two grade levels, eighth and twelfth. For the comprehension task, within each grade level, four passages were presented, two representing high imagery conditions, and two, low imagery. Three literal and four critical level comprehension questions followed each passage. For the word perception task, subjects were shown the first 75 words of each passage arranged so that no punctuation or additional spaces appeared between words. Subjects were to draw a line between word boundaries under time limitations. Subjects were assigned randomly to conditions of one combination of imagery and difficulty with four subjects per cell. Better readers performed significantly better than poorer readers on all tasks. On the word perception task, both levels of readers performed similarly on the eighth grade passages. On twelfth grade materials, poorer readers showed a sharp drop in performance and better readers, an increase in performance. Both groups were similar on both types of comprehension in the low imagery condition. On the high imagery condition, good readers increased their scores and poorer readers showed a slight decline in scores.

WEISBERG, RENEE. A comparison of good and poor readers' ability to comprehend explicit and implicit information in short stories based on two modes of presentation. *Research in the Teaching of English*, December 1979, 13, 337-351.

Investigates whether good and poor fourth-grade readers differ in their ability to understand explicit and implicit information in short stories. An additional focus of the study was to note whether differences found were a function of mode of presentation (aural or visual). Subjects included 32 readers in each group. All had an IQ of 90 or above on the *Cognitive Abilities Test*, Level A. Subjects scoring above grade level 4.5 on the *Gates-MacGinitie Reading Test*, Survey D, were designated as good readers; subjects scoring below 4.5 were designated poor

readers. Within each ability group, half of the boys and half of the girls were assigned randomly to mode of presentation. Subjects received six short stories, each followed by eight comprehension questions designed to assess facts, presupposition, causes and logical consequences. Free recall was also assessed. Subjects were individually tested in two sessions. Recall was significantly better for good readers than for poor readers regardless of mode of presentation. When further analyzed, the data indicated that good readers recalled significantly more explicit information than poor readers, but there was no difference in their recall of implicit information. Good readers performed significantly better on each type of question than did poor readers. Differences appeared between the two groups in the types of questions answered best.

CONDON, MARK W. F., & HOFFMAN, JAMES V. A comparison of context usage by good and poor readers in word boundary tasks. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 39-44.

Compares the ability of good readers, deficit poor readers, and difference poor readers in marking word boundaries. The stimuli were twelve 100 word passages on various topics. They were presented in three physical formats: 1) SWB, all punctuation and capitals removed and extra spaces added between letters; 2) AP, the same as 1 except that words were grouped into phrase units separated by dashes, and 3) the same as 1 but the words were grouped into meaningless phrases separated by dashes. Subjects were given 75 seconds per passage to draw a slash between each word. Subjects were 133 racially and socially mixed seventh graders. Good readers had an average reading level of 7.3; poor readers, 4.5. Poor readers were further divided: those with vocabulary scores higher than comprehension scores were called difference readers (N = 38); those with vocabulary scores lower than comprehension scores were called deficit readers (N = 17). Good readers performed better than poor readers. Both good and deficit poor readers made significantly more errors on the AP format than SWB errors, as predicted. Difference and deficit poor readers did not differ on AP errors as predicted. The authors argue that their results support a delineation of deficit and difference poor readers.

GUTHRIE, JOHN T., & TYLER, S. JANE. Cognition and instruction of poor readers. *Journal of Reading Behavior*, Spring 1978, 10, 57-77.

Reviews and critiques the literature on deficiencies of poor readers. Characteristics of primary level poor readers, characteristics of poor readers at the intermediate level, and instruction for poor readers are the topics dealt with in reviewing the literature.

ADAMS, MARILYN JAGER. Some differences between good and poor readers. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 140-144.

Compares the ability of 16 high school students classified as good readers or poor readers by scores on the *Nelson-Denny Reading Test* to identify words, pseudowords, and nonwords across a range of exposure durations utilizing a TENEX computer system. The mean Nelson-Denny percentile was 96 for the good readers and 47 for the poor readers. Good readers were significantly better at recognizing in all the stimulus conditions. Readers generally encoded high frequency words most efficiently and nonwords least efficiently. Poor readers were less facile in recognizing individual letters and their presentation order.

MCDORMAN, MARY BEN. Varying the direction of print and learning disabled and normal pupils' ability to sequence words. *Journal of Research and Development in Education*, 9, Monograph 1976, 18-20.

Compares the learning performance of learning disabled and non-learning disabled students. The independent variable was the direction the words were printed on a page. The dependent variable was subjects' ability to indicate the order (serial sequence) words were read. Normal readers were more successful than learning disabled students, but no significant interaction effects between groups and treatments were found. Directionality of the placement of words on a page did not affect learning disabled students.

BLAKE, KATHRYN. Abstractness and concreteness and retarded and normal pupils' sentence comprehension. *Journal of Research and Development in Education*, 9, Monograph 1976, 90-91.

Examines how mentally retarded and normal subjects' sentence comprehension is affected by the abstractness or concreteness of the sentence. A study-test paradigm was employed. Stimuli were six sentences in which all the nouns had a rating of 6.0 or higher (concrete) on the Paivio, Yuille and Madigan list and six sentences in which the nouns were rated 3.0 or lower (abstract). On study trials, subjects and experimenter read the sentences together. On test trials, subjects wrote the sentences, the subject nouns were prompts. There was a significant difference between groups and treatments (favoring concrete), and a significant treatment x groups interaction.

MARK, LEONARD S.; SHANKWEILER, DONALD; LIBERMAN, ISABELLE Y.; & FOWLER, CAROL. Phonetic recoding and reading difficulty in beginning readers. *Memory and Cognition*, November 1977, 5, 123-129.

Hypothesizes that good and poor second grade readers differ in their ability to access and to use a phonetic representation. Subjects were asked to read a list of 28 first grade words taken from the Cheek Master Word List. They were then presented a list of 56 words made up of 1) the initial 28 "old" words, 2) 14 foil words which were visually different but phonetically similar (rhymed) to 14 of the initial words and 3) 14 foil words which were visually and phonetically dissimilar to any initial word. The *Stanford Achievement Test* (SAT) and the *Wide Range Achievement Test* were used to identify good readers (3.5 to 5.0 on the SAT, 3.1 to 5.0 on the WRAT) and poor readers (1.5 to 2.4 on both). The 15 good readers had an average WISC-R IQ score of 114, the poor readers 109; these were not significantly different. The dependent variables were number of words identified as being from the initial list and the number of words read correctly. Performance of good readers in identifying words from the initial list was affected by phonetic similarity, the performance of poor readers was not.

FOX, BARBARA, & ROUTH, DONALD K. Phonemic analysis and severe reading disability in children. *Journal of Psycholinguistic Research*, March 1980, 9, 115-119.

Examines the ability of 45 first-grade children ($M = 30$, $F = 15$) to segment spoken syllables into individual speech sounds. Three groups of 15 each represented average readers, mild reading difficulties, and severe reading disabilities. The groups were determined by teacher judgment, and a reading subtest of the *Peabody Individual Achievement Test*. In addition, all subjects had average or above intellectual ability, according to the *Peabody Picture Vocabulary Test*. All subjects except the "severely disabled" group were able to segment eight sentences into words without error. The scores of girls in the lowest group, however, were not significantly below the scores of the other children. All children, except those in the severely disabled

group, had perfect scores on segmenting words into syllables. Again, girls in the lowest group did not have scores significantly below the other groups. The phonemic analysis task of segmenting syllables into speech sounds produced similar results, permitting the researchers to use results of this task to distinguish severe reading disability cases from all other subjects.

MCBRIDE, RALPH. Visual phrasing cues as an aid to comprehension of simple and complex sentences by learning disabled and normal pupils. *Journal of Research and Development in Education*, 9, Monograph 1976, 109-110.

Examines the effects four types of visual phrasing cues have on learning disabled students' and normal readers' ability to comprehend simple and complex sentences. The four phrasing cues placed between the phrases of six complex and six simple sentences were: black slashes, red slashes, black dots and red dots. Sentences were shown to subjects and read aloud by the investigator as subjects read silently. On test trials, one word was deleted from each of the sentences and subjects were to write in the word. Normal readers performed at a significantly higher level than learning disabled students, but there was no differences between phrasing cues.

RYLE, ANTHONY, & MACDONALD, JANET. Responses to reading as perceived by boys with and without specific reading retardation and behavioural disorders; a repertory grid study. *Journal of Psychology and Psychiatry*, 1977, 18(4), 323-334.

Compares a group of 16 boys showing the characteristic pattern of specific reading retardation and behavior disorders with a control sample of 16 boys, using a repertory grid technique. A third group of eight boys were identified without behavioral disorders, and without the teacher's recognition of reading retardation, but who were in fact retarded in relation to mental age. The "Consequences Grid" provided an estimate of a subject's perceptions of the reactions of significant others to various child behaviors. Reading behaviors of reading aloud in class, and reading quietly in class or at home were added to the grid in order to ascertain how a subject felt given persons would respond to these activities on a five-point scale. Problem boys perceived less positive responses to reading from self, adult, and peers; their own judgments of their behaviors were closer to the peer-groups', and further from those of adult figures than were those of the controls. However, the problem group saw no greater discrepancy between the judgments of adults and peer figures, nor between parents and teachers, than did control boys.

GLAZER, NEIL T. Reading deficiency and behavior problems: a study. *Reading Horizons*, Summer 1978, 18, 282-284.

Presents longitudinal data on the relationship between reading deficiency and disciplinary problems. Subjects were originally 100 grade seven and eight children who had been sent to the office for disciplinary infractions. All were administered the *Gates-MacGinitie Reading Test* and 89 scored below grade placement. Subjects were now eligible for high school graduation. Of the original 100, 54% did not graduate while only 13% of a random sample of students from the same school did not graduate.

ACKERMAN, PEGGY T.; DYKMAN, ROSCOE A.; & PETERS, JOHN E. Teenage status of hyperactive and nonhyperactive learning disabled boys. *American Journal of Orthopsychiatry*, October 1977, 47, 577-596.

Reevaluates 23 hyperactive learning disabled (LD) boys, first diagnosed in elementary school, again at age 14. The hyperactive LD group was contrasted on academic and cognitive measures and on complex reaction time to 25 normoactive

LDs, 14 hyperactive LDs, and 31 controls. When first evaluated in elementary school, all three LD groups showed about two years retardation on the *Gray Oral Reading Test*, had either Verbal or Performance WISC IQs of 90 or above, and had either failed a grade or were near failure. At age 14, 16 of the 23 hyperactives had had varying time trials on stimulant medications and four were still under medication. Of the non-hyperactive LD boys, 28% had received stimulant medication, but none was being treated at the time of the follow-up. Boys treated with stimulants had lower scores on the *Wide Range Achievement Test* (WRAT) at 14 than were those not treated. Subjects who had been in more intense educational intervention programs were farther behind than those in less intense programs. The most predictive variables for academic status at 14 were level of intelligence and degree of initial retardation. Scores on the Gray Oral at age 14 were 6.5, 5.6, 5.9, and 10.0 for the hyperactive, hypoactive, normoactive, and control groups, respectively. Respective scores on the WRAT were 7.1, 7.3, 7.3, and 10.7. The article presents the results of investigations into various contributing factors such as attitudinal, experiential, physical, and basic.

CARTER, JOHN L., & RUSSELL, HAROLD. Biofeedback and academic attainment of LD children. *Academic Therapy*, March 1980, 15, 483-486.

Studies the effects of electromyographic muscle relaxation training on four learning disabled children (ages 8 to 13). Once a week for ten weeks, the boys received ten minutes of biofeedback regarding the degree of relaxation in their writing forearm and 50 minutes of supervised handwriting practice. They also had daily homework assignments. During the ten weeks, the boys learned to control forearm tension voluntarily. Mothers stated that their children showed greater self-control, decreased impulsivity and distractibility, and greater conscientiousness in school.

MONAGHAN, E. JENNIFER. A history of the syndrome of dyslexia with implications for its treatment. In Constance M. McCullough (Ed.) *Inchworm, Inchworm: Persistent Problems in Reading Education*. Newark, Delaware: International Reading Association, 1980. Pp. 87-101.

Discusses the history of the concept of dyslexia in the United States and Great Britain. Included is a presentation of approaches for teaching disabled readers. The author ends with implications for remediation.

GROSS, KAREN, & ROTHENBERG, STEPHEN. An examination of methods used to test the visual perceptual deficit hypothesis of dyslexia. *Journal of Learning Disabilities*, December 1979, 12, 670-677.

Discusses two methodological problems that often arise in dyslexia research: 1) the validity of the experimental measures and the related problem of interpreting null results and 2) the effects of sampling from a disabled population when the disorder under consideration has multiple unknown origins. The problems are illustrated through a discussion of the research aimed at testing the visual perceptual deficit hypothesis of dyslexia. Data supporting the visual perceptual deficit hypothesis are presented, and the authors suggest that this hypothesis may account for some forms of dyslexia.

PAVLIDIS, GEORGE TH. How can dyslexia be objectively diagnosed? *Reading*, December 1979, 13, 3-15.

Attempts to define dyslexia and to present an objective diagnosis of dyslexia. The author argues that eye movements clearly reflect the development of reading skill. Twelve dyslexics were matched to 12 normal readers on intelligence,

age and socio-economic status. Dyslexics were defined by ten traits. The eye movement patterns of dyslexics on reading tasks and on a light sequence task (both recorded by the photo-electric method) showed significantly more total eye movements and significantly more regressive eye movements than normal readers. Dyslexics also had greater difficulty holding a fixation. These results are discussed in terms of the causes of dyslexia and the use of the author's procedure for diagnosing dyslexia is proposed.

HOLMES, DAVID R., & MCKEEVER, WALTER F. Material specific serial memory deficit in adolescent dyslexics. *Cortex*, March 1979, 15, 51-62.

Conducts an experiment to determine if disabled readers differ from normal readers in serial memory as well as general memory. Presents four memory tasks to 15 adolescent dyslexics and 15 normal readers: 1) general memory-words, 2) general memory-faces, 3) serial memory-words and 4) serial memory-faces. Average IQ, measured by the *Peabody Picture Vocabulary Test*, was 102 for the dyslexics, 110 for the controls. On the *Gates-MacGinitie Reading Tests*, the dyslexics averaged 3.2 years below grade level; the controls, 2.2 grades above. The faces stimuli were college yearbook pictures, and the word stimuli were nouns that dyslexic students were able to read (determined by a pretest). In the general memory condition, subjects viewed 20 faces (words) for three seconds and then selected from 40 faces (words), the 20 shown. For the serial task, a different set of 20 faces (words) was shown for three seconds, and then subjects were asked to arrange the randomly mixed faces (words) into the order presented. For both general memory tasks and the serial memory-faces task, there was no significant differences between groups. The performance of the normal readers was significantly higher than the dyslexic students for serial memory words. Further analysis indicated that dyslexic students made most of the errors on words in the last three-fourths of the word list. No significant coefficients of correlation between IQ and memory scores were found. The results were interpreted to demonstrate that serial verbal memory is a basis of specific dyslexia.

TAYLOR, H. GERRY; SATZ, PAUL; & FRIEL, JANETTE. Developmental dyslexia in relation to other childhood reading disorders: significance and clinical utility. *Reading Research Quarterly*, 1979-1980, 15(1), 84-101.

Attempts to determine whether dyslexia is a term of clinical value by identifying characteristics that distinguish dyslexia from other reading disorders. A secondary purpose was to investigate the performance of 80 disabled readers and an age matched group of normal readers along the dimensions chosen for study. Of the 80 disabled readers, 40 were identified as dyslexic and 40 were nondyslexic. Classification as dyslexic was based on 1) an IQ of 90 or more on the *Peabody Picture Vocabulary Test*; 2) an average or above socioeconomic level; and 3) no serious sensory, emotional, or neurological problem. Results of the comparisons suggested that poor readers are deficient in numerous neurodevelopmental skills, that they face unfavorable consequences regarding later academic and personality functioning, and that their parents' reading and spelling skills are poor relative to those of parents of normal readers. Comparisons of the portion of the sample labelled dyslexic with the nondyslexic disabled readers revealed no differences.

SNOWLING, MARGARET J. The development of grapheme-phoneme correspondence in normal and dyslexic readers. *Journal of Experimental Child Psychology*, April 1980, 29, 294-305.

Matches dyslexic and normal readers on Reading Age (R.A.) and then compares them on auditory and visual recognition of nonsense words after visual or auditory presentation. Subjects included 36 normal readers, ages 6-6 to 10-9,

and 18 dyslexics, ages 9-2 to 15. Each group was divided into four subgroups on the basis of R.A. ranging from R.A. 7 to R.A. 10. Dyslexics were attending a special program at a London teaching hospital. Stimuli were four-letter pronounceable nonsense words presented in four conditions: auditory presentation-auditory recognition (A-A), visual presentation-visual recognition (V-A), auditory presentation-visual recognition (A-V), and visual presentation-auditory recognition (V-A). Nonsense words were presented in pairs in the four conditions, and subjects were to identify each pair as "same" or "different." Differential performance of the two groups was found on the V-A condition with normals outperforming dyslexics. No significant differences occurred in the other conditions. Across R.A. groups, A-A presentation resulted in better performance than did the other conditions. For dyslexics, there was no significant difference in performance between R.A. groups. For normal readers, older R.A. groups performed better than younger R.A. groups. Normal readers showed improved performance on the V-V condition with increasing R.A.; dyslexics did not. In normal readers, a close correspondence was found between performance in the V-V condition and performance in A-V or V-A conditions. Dyslexics, however, were significantly better with the V-V condition than with the cross modality conditions. The author postulates that dyslexics have a specific difficulty in grapheme-phoneme conversion.

TRITES, RONALD L., & FIEDOROWICZ, CHRISTINE. Follow-up study of children with specific (or primary) reading disability. In Robert M. Knights & Dirk J. Bakker (Eds.) *The neuropsychology of learning disorders: theoretical approaches*. Baltimore, Maryland: University Park Press, 1976. Pp. 41-50 (Refs. 469-521).

Reports the diagnostic and follow-up test scores of three groups of children: 27 boys diagnosed as primary reading disabilities, 10 girls with reading disability, and 10 boys with a reading disability presumably secondary to neurological disease. The average ages of the groups at diagnosis and follow-up were respectively: 11-6 and 14-1 for the 27 boys, 11-5 and 14-3 for the 10 boys, and 8-9 and 11-5 for the 10 girls. The following tests were administered at diagnosis: WISC-R, *Peabody Picture Vocabulary Test* (PPVT), *Boston University Speech-Sound Discrimination Picture Test*, *Wide Range Achievement Test* (spelling, reading and arithmetic) (WRAT), *Halsted-Reitan Tests* and the *Wisconsin Motor Steadiness Test*. The follow-up tests were the WRAT and the PPVT. Comparisons between the three samples on the diagnostic and follow-up test were reported. The intercorrelations between the diagnostic tests for the 27 boys were also reported. Comparisons of diagnostic and follow-up data indicated that PPVT-IQ had not changed for any group and that all children were still well behind in all academic areas. The results are interpreted as a challenge to the validity of the maturational lag hypothesis.

FRAUENHEIM, JOHN G. Academic achievement characteristics of adult males who were diagnosed as dyslexic in childhood. *Journal of Learning Disabilities*, October 1978, 11, 476-483.

Obtains academic achievement data on a group of adult males who had been diagnosed as dyslexic in childhood. A total of 40 men, 18 to 31 years old, were used in the study. Subjects had originally been diagnosed between the ages of eight to 15. Performance IQ for all subjects fell within the average to superior range on the WISC. Full-scale scores ranged from 80 to 112 at the time of diagnosis. At the time of diagnosis, subjects had significant academic retardation in reading, spelling, and arithmetic. Subjects were individually tested and interviewed as adults. Test administered included the oral reading section of the *Gates-McKillop Reading Diagnostic Test*, the vocabulary and comprehension sections

of the *Gates Reading Tests*, and the spelling and arithmetic tests of the *Group Diagnostic Reading Aptitude and Achievement Tests*. A sentence was dictated to obtain a sample of handwriting and spelling in sentence form. The mean reading score based on the average of the oral, vocabulary, and silent reading tests was 3.6 with a range from 1.5 to 8.4. Only one subject scored above grade six level while 63% obtained a reading score below fourth grade level. An analysis of the amount of special reading assistance given in childhood and the present reading level indicated that the amount of special reading assistance was not significantly related to adult reading level. Age at which special reading assistance was given was not related to adult reading level.

MINDELL, PHYLLIS. Dyslexia and sequential order errors in reading. *Bulletin of the Orton Society*, 1978, 28, 124-141.

Inquires into the relationship between spatial sequence memory and sequential errors in word reading in normal and dyslexic readers. Subjects were 38 grade two, 58 grade three, and 46 grade four children. At each grade level, half of the subjects were classified as dyslexics and half as normal readers. Dyslexics scored at or below the 28th percentile on the *Stanford Reading Achievement Test*, and had an IQ of 90 or above on the *Lorge-Thorndike Intelligence Test* or equivalent raw score on the *Metropolitan Readiness Tests*. In addition, they showed no brain damage, sensory defect, or psychological problems and were in a regular classroom. The groups were matched on the basis of sex, grade, school, and age. Subjects were presented with stimuli of four, six, and eight lowercase letters for both an item memory task and an order memory task. Three kinds of anagrams were used for the word reading task. Subjects were also given the *Peabody Picture Vocabulary Test* (PPVT) and the reading subtest of the *Wide Range Achievement Test* (WRAT). Normal readers exceeded dyslexics in the number of words read correctly, but differences favoring the normals decreased with age. All older subjects read more words correctly than did younger children. Normal readers made fewer no response and other errors than dyslexics. Sequence errors increased in dyslexics with age. Anagram pairs in which both words shared the same first letter accounted for the pattern of dyslexic readers' increase in sequence errors. Sequence errors in dyslexics were interpreted as related to a dedevelopmental lag and as indicative of the readers' immaturity of perceptual integration.

FISCHER, F. WILLIAM; LIBERMAN, ISABELLE Y.; & SHANKWEILER, DONALD. Reading reversals and developmental dyslexia: a further study. *Cortex*, December 1978, 14, 496-510.

Seeks to determine whether children designated as dyslexics exhibit a distinctive pattern of reading errors and to discover whether their pattern of reversal errors differs from that of other poor readers. A total of 13 boys between the ages of eight and ten met the criteria for inclusion in the dyslexic group. They were compared with a group of elementary school children identified in an earlier study. This latter group tested average or above in intelligence and fell in the lowest third of their grade in reading achievement. A word list was administered twice to each child, and they were also asked to take a matching letter test of 100 items. Scores were kept for reversals of sequence (RS), reversals of orientation (RO), other-consonant error (OC), vowel error (V), and total error (TE). In addition, the *Gray Oral Reading Test* was given. The difference between the two groups on the *Gray Oral* was .3 of a year. The dyslexic group made significantly more errors than the poor readers group on the word list. In both groups, V and OC accounted for the bulk of errors made. Dyslexic children made 8.3% RS and 11.4% RO errors; for poor readers these percentages were 6.7 and 12.5 respectively, for RS and RO. RS

and RO errors were correlated in the dyslexic group ($r = .55$) but not among the school children ($r = .03$). The performance of the two groups also differed in relation to directional bias in letter reversals. The authors concluded that directional problems may prove an additional source of difficulty for some dyslexic children but that they are not of great importance in most cases of reading disability.

DALBY, J. THOMAS. Deficit or delay: neuropsychological models of developmental dyslexia. *The Journal of Special Education*, Fall 1979, 13, 230-264.

Examines issues and research relating to the involvement of the central nervous system in reading disorders. Gives particular attention to the assessment of the brain-deficit model vis-à-vis the maturational-lag model of developmental dyslexia.

ELLIS, N. C., & MILES, T. R. Dyslexia as a limitation in the ability to process information. *Bulletin of the Orton Society*, 1977, 27, 72-81.

Presents data from five studies comparing the ability of dyslexic and non-dyslexic subjects to respond to arrays of tachistoscopically presented digits. The first experiment matched subjects for spelling age in order to investigate the maturational lag hypothesis of dyslexia. Fifteen dyslexics with an average age of 12 were matched with 15 nondyslexics with an average age of 8.5 on spelling. They were presented tachistoscopically with cards containing four, five, six, or seven digits. Dyslexics were less successful than normals in performing the task, suggesting that maturational lag did not fully account for the difference in performance. Similar procedures were performed in the other experiments, using other ages of subjects. The results suggested that dyslexia can be regarded as some sort of limitation in the ability to process information.

COLLETTE, MARTHA A. Dyslexia and classic pathognomic signs. *Perceptual and Motor Skills*, June 1979, 48, 1055-1062.

Compares the performance of 26 eighth and ninth graders diagnosed as dyslexics with that of 19 retarded readers of comparable age, I.Q., and reading performance, and both with 96 adequate eighth and ninth grade readers on 49 measures of pathognomic signs. Using age as a covariant, analyses of dependent variables were performance in tasks of reading, spelling, writing paragraphs, writing loop letters, and reversal rotational measures. Adequate readers performed significantly different from both diagnosed dyslexics and retarded readers, but the classical pathognomic signs of dyslexia did not distinguish between the diagnosed dyslexics and the retarded readers. Slow and halting oral reading, slow silent reading, poor handwriting, and poor visual-motor ability were not found to be reliable indicators of dyslexia. Rather, they were characteristic of both reading-disabled groups.

LEISMAN, GERALD, & SCHWARTZ, JODDY. Aetiological factors in dyslexia: I. Saccadic eye movement control. *Perceptual and Motor Skills*, October 1979, 47, 403-407.

Examines the character of saccadic eye movements in dyslexic and normal children and normal adults. Twenty normal and 20 dyslexic children, ranging in age from seven to 11, and 28 normal adults participated in the study. No significant differences were found between the two groups of children, but significant differences were noted between the adult population and both groups of children. The results indicate no differences in the saccadic eye-movement control functions of dyslexics and normal readers.

LEISMAN, GERALD; ASHKENAZI, MAUREEN; SPRUNG, LANCE; & SCHWARTZ, JODDY. Aetiological factors in dyslexia: II. Ocular-motor programming. *Perceptual and Motor Skills*, October 1978, 47, 667-672.

Examines the saccadic eye movement patterns of 20 normal and 20 dyslexic children. Subjects who ranged in age from seven to 11 years of age were required to identify digits as they appeared on five different areas of a screen. Eye movements were recorded electroculographically and analyzed. No differences between groups were found in the programming or efficiency of eye movement precision.

LEISMAN, GERALD. Aetiological factors in dyslexia: III. Ocular-motor factors in visual perceptual response efficiency. *Perceptual and Motor Skills*, October 1978, 47, 675-678.

Concerns itself with the effects of induced interference on the processing of sensory information and in the formation of perceptual motor responses in 20 dyslexic and 20 normal children. Subjects ranged in age from seven to 11 and all had average or above average *WISC-R* Full Scale IQs. Changes in ocular-motor programming were examined through measuring saccadic localization, verbal position judgment, and verbal identification of a target. There was no significant difference between dyslexics and normals suggesting that dyslexics do not exhibit impairment in perceptual localization.

IV-15 Socio-cultural factors and reading

KYÖSTIÖ, O. K. Development of reading skill during elementary school in Finland. *The Reading Teacher*, February 1980, 33, 519-526.

Cites data on a longitudinal study following children from ages seven to 15. Two urban and two rural communities in northern Finland and one rural and one urban community in southern Finland were used to collect the sample. All children entering school in 1970 were included. The number of children beginning the study was 767; at the end, 597 remained. Initial data collected included: scores on the *Raven Progressive Matrices* and *KTK* nonverbal intelligence test; an initial mathematics and reading test; and height and weight data from an initial physical examination. Later, additional achievement, personality, and attitude measures were given. Initial data in reading and math indicated that environment had influenced attainment. At age seven, girls had higher mean scores in both reading and math. At the end of the six-year period, children in northern rural districts had shown the greatest gain in intelligence scores. Northern rural area children also advanced proportionally the most in reading skill.

GREANEY, VINCENT. Review of reading research in the Republic of Ireland. In Vincent Greaney (Ed.) *Studies in Reading*. Dublin: The Educational Co., 1977. pp. 2-11.

Reviews research conducted in Ireland on the relationship between reading attainment and a number of educational, psychological, and social factors.

ENTWISLE, DORIS R. The child's social environment and learning to read. In T. Gary Waller & G. E. MacKinnon (Eds.) *Reading research: advances in theory and practice*, (Vol. 1). New York: Academic Press, 1979. pp. 145-169.

Indicates a few of the ways that children's social environments may affect how they learn to read.

MARJORIBANKS, DEVIN. Ethnicity, family environment, school attitudes and academic achievement. *The Australian Journal of Education*, October 1978, 22, 249-261.

Employs regression surface analysis to examine relations between family environment and measures of school attitudes and academic achievement for 800 eleven-year-old Australian children. Included were 140 Anglo-Australian middle social-status children and children from the following lower social-status families: 250 Anglo-Australian, 170 Greek, 120 recent English immigrants, and 120 Southern Italian. A semi-structured family interview was used to determine various family variables such as attitude toward and satisfaction with school. The *Classroom Achievement Tests in Mathematics* and the *Primary Reading Survey Tests* were used as measures of achievement in mathematics, word knowledge, and word comprehension. School-related attitudes of children were assessed by means of a Likert-type questionnaire. Findings suggested that there are differential relations between family environments, attitudes, and children's academic achievement within the ethnic and social-status groups.

FOWLER, PATRICK C., & RICHARDS, HERBERT C. Father absence, educational preparedness, and academic achievement: a test of the confluence model. *Journal of Educational Psychology*, August 1978, 70, 595-601.

Examines measures of 120 lower class black kindergarteners, equal samples by sex and father presence or absence on 12 educational preparedness measures and on second grade achievement measures for reading, mathematics, and language. Kindergarten measures consisted of the *Early Detection Inventory*, the *Social Psychological Adjustment Inventory*, and the *Metropolitan Readiness Tests*. The *Science Research Associates Assessment Survey* was administered during second grade. The effects of social class were controlled in all analyses. Father absence $\times$ sex analysis of covariance revealed no significant differences among readiness measures. Multivariate analysis showed a significant influence of father presence on the mathematics test, the greater influence appearing in girls' scores.

MELICAN, GERALD J., & FELDT, LEONARD S. An empirical study of the Zajonc-Markus hypothesis for achievement test score declines. *American Educational Research Journal*, Spring 1980, 17, 5-19.

Tests the Zajonc-Markus hypothesis that achievement test score declines are a result of the trend toward larger, more closely spaced families seen after World War II. The Zajonc-Markus hypothesis is that children born into larger families with children relatively closely spaced have less of an intellectual environment than children born into smaller families with children relatively widely spaced. Other factors (birth order and age-gap between siblings) are also important in the hypothesis. The present study tested this hypothesis with 5,294 high school students from 12 Iowa School systems representative of the state in terms of size, rural-urban distribution, and average student achievement. Data were obtained on family size, age-spacing to next older and next younger sibling, birth order, and composite achievement score on the *Iowa Tests of Educational Development*. Separate regression analyses were carried out on the data for families of 2, 3, 4 and 5 children. Two regression analyses were performed for each size family, one for age-gap to next older and one for age-gap to next younger sibling. The size of the interval between children was found in selected instances to be related to achievement in families of three or more children, but the results were not consistent for every family size nor from child to child in the birth sequence. Overall, the results raise doubt that population trends in child spacing account for the decline in achievement test scores.

JAYASEKARA, R., & STREET, J. Parental age and parity in dyslexic boys. *Journal of Biosocial Science*, July 1978, 10, 255-261.

Studies the factors of parental age, birth order, and social class in 48 dyslexic boys. The boys were selected randomly from a word-blind center in England. Ages ranged from 6 to 14. There was a greater incidence of dyslexia among births at later ages of both fathers and mothers. No significant relationship was noted with birth order. The authors feel that the findings point to a biological rather than environmental element in the etiology of dyslexia.

SCHNEIDER, JEFFREY M.; GLASHEEN, JOHN D.; & HADLEY, DANNY W. Secondary school participation, institutional socialization, and student achievement. *Urban Education*, October 1979, 14, 285-302.

Examines, as part of a larger study, how the predictive power of student background and school climate variables vary in accounting for student outcomes in four high schools. In November, 1975, questionnaires were distributed to all 1,780 ninth graders in the four schools who had received grades at the end of the first quarter of the academic year. Second and third questionnaires were distributed to 240 randomly selected students in December and May. The questionnaires were used to assess school climate and attitudes toward school. Return rate for the three instruments was 64%, 74%, and 64%, respectively, for the three testing periods. In addition, data were obtained on socioeconomic status, sex, age, and ethnicity of students. Grade point average (GPA); total absences; and scores on the reading, math, and language sections of the *California Achievement Test* (CAT) were collected also. Socioeconomic status, race, and sex accounted for almost 30% of the variation in CAT scores. Socioeconomic status is much less influential in predicting GPA achievement. The relative proportion of CAT results explained by demographic factors varied markedly among the four schools. Socioeconomic status and other background variables were much more influential on CAT and GPA outcomes in the school having a selective admissions policy than in the non-selective schools.

BRADLEY, LAURENCE A., & BRADLEY, GIFFORD W. The academic achievement of black students in desegregated schools: a critical review. *Review of Educational Research*, Summer 1977, 47, 399-449.

Examines briefly the Coleman study and then evaluates the methodologies and results of several field studies on the effect of desegregation on black pupils' academic performance. Those studies showing positive effects of school segregation on performance were found to suffer from methodological deficiencies that weakened the validity of their results. Studies showing few benefits of desegregation were also flawed. Well-designed studies provided conflicting evidence on the benefits of desegregation as an intervention strategy.

HARMER, WILLIAM R., & ALEXANDER, JACQUELYN. Examination of parental attitudes within the diagnostic intervention process. *Journal of Learning Disabilities*, November 1978, 11, 590-593.

Examines one self-reporting inventory of parental attitudes toward child rearing and reading. This questionnaire contained two types of items: demographic information, measured directly, and attitudes toward child rearing and towards reading, measured on a Likert scale. Subjects were both parents (214) of 107 children diagnosed at a learning disabilities center. Correlation coefficients between fathers' and mothers' attitudes and the WISC-R, the *Wide Range Achievement Test* and the *Peabody Individual Achievement Test* were reported. For fathers, two of the three coefficients were significant and ranged from .11 to .41; for mothers the coefficients ranged from .22 to .48 and were all statistically significant. Coefficients

between demographic factors and attitudes were generally non-significant—except there was a significant inverse relation between fathers' attitude and occupational level ($-.36$) and educational level ($-.15$). Concludes that diagnosticians should not assume that well educated parents have more supportive attitudes toward their child's reading than parents with little education. Questions the value of such questionnaires in diagnostic situations.

IV-16 Reading interests

WHITEHEAD, FRANK; CAPEY, A. C.; MADDREN, WENDY; & WELLINGS, ALAN. *Children and their books*. London: Macmillan Education, 1977.

Examines the extent and kinds of voluntary reading by children, their satisfactions from books and other reading materials, and environmental factors which influence their choice in an extensive and detailed study conducted in England and Wales. A national survey was made with approximately 8,000 children, 10, 12, and 14 years old, in 193 primary schools and 188 secondary schools as subjects. A school questionnaire was completed by school officials in approximately 400 schools. Supplementing the written questionnaire, follow-up interviews were held with 576 children in 34 schools. The data provided quantitative findings about such topics as the amount of book and periodical reading and televiewing, the relationships among these three factors, the relationships of social class, sex, ability, and family conditions to reading, the influence of the school and class libraries. Qualitative findings pertained to the diversity of book reading, classifications of books, types of book readers, the most widely read books, and sources of books read. Favorite books were qualitatively analyzed for common characteristics.

MAURO, JOHN B. Newspaper readership among public school children grades 7-12. *ANPA News Research Report*, October 31, 1979, No. 23, 1-7.

Provides extensive findings of a survey of television viewing and newspaper use in the home by 1,048 junior and senior high students in the Richmond, Virginia, area public schools. Subjects were randomly selected by class. Data were gathered using a self-administered questionnaire under teacher supervision. A 95% response was obtained to the questionnaire. Nine out of 10 students were exposed to one or more newspapers daily. Little or no differences appeared in newspaper exposure or readership as grade level increased. Amount of television viewing, however, decreased in both time and frequency as grade level increased. The heavy newspaper reader viewed as much television as did the light or non-newspaper reader. Of the respondents, 52% read a morning newspaper two or more times a week, with slightly more boys (58%) than girls (52%) reporting that they read a morning paper. About three-fourths of those who read a morning paper also reported reading at least one other daily. The median time spent reading the morning paper was 21 minutes. Seventy percent of morning newspaper readers start their reading by turning to a specific page or section. For boys, it is the sports section (71%); for girls, comics (44%) and entertainment pages (19%). The availability of newspapers in the home was the most important influence on readership.

MORRISON, LILLIAN. Fifty years of "books for the teen age." *School Library Journal*, December 1979, 26, 44-50.

Traces the 50-year growth of *Books for the Teen Age*, published by the New York Public Library. The present list contains 1250 titles under five broad groupings in comparison with the 1929 list of 300 titles under 29 subject headings. Titles that have remained on the list for 50 years are included. Selection of titles

for the list is based upon the intrinsic merits of the books, their value and appeal to teenagers, and teenagers' reaction to them.

CALABRO, MARIAN. Trends and topics in YA books. *Media & Methods*, April 1980, 16, 24-31, 71.

Interviews 24 teachers, librarians, editors, agents, writers, and book retailers concerning types of books read by teenagers. Their responses focused on nine types of books that adolescents read: realistic or problem novels, humor, mysteries, sports, science fiction and fantasy, romances, books for minorities, biographies and histories, and poetry. Examples of books in each of these categories are described.

WATSON, KEN. The reading habits of secondary school pupils in N.S.W. *English in Australia*, November 1978, 46, 68-77.

Presents the results of a survey of reading interests of 1,401 pupils in eight Sydney, Australia, and one country high school, years seven through twelve. The subjects indicated on a questionnaire the number and titles of books read during the past month, how they choose the books they read, reading preferences, books studied which they have enjoyed, how often and where they borrow books, the best book they have ever read, and the amount of television they watch each week. The books most frequently mentioned were those that had received much publicity or notoriety. Television viewing reached its peak in year eight with 45% watching more than 20 hours per week. The report includes the titles of books most frequently listed under the various headings.

TAKAGI, KAZUKO. Interests in picture books of Japanese five year olds. *The Reading Teacher*, January 1980, 33, 442-444.

Asks five-year-old Japanese kindergarteners what they enjoyed about picture books and what elements of picture books they found most interesting. Twenty-four books were chosen from Japanese translations of the Pixi Picture Books. In groups of 12, the books were given to the mothers of 120 children to read to their children over summer vacation. In addition, the books were rated by college students, and the author analyzed the content of each book. The author presents a list of the most popular books as reported by the children in personal interviews. Seven of the eight most popular books contained unexpected developments; only three of the eight least popular had such developments. All eight of the most popular books contained elements of problem solving while only two unpopular books contained that factor. Although mothers observed no differences in boys' and girls' interests, such differences were found in the interviews. The author concluded that the findings of this study do not differ significantly from previous assumptions about the elements of an interesting picture book.

HUUS, HELEN. A new look at children's interests. In Jon E. Shapiro (Ed.) *Using Literature and Poetry Affectively*. Newark, Delaware: International Reading Association, 1979. Pp. 37-45.

Reviews a number of recent studies of children's reading interests and generalizes from the findings. Notes that primary children like animals, home and family, make-believe, and cowboys as topics, but that they also express interest in history and science informational materials. Through the middle years of the elementary school, although sex differences in interests appear, both boys and girls like mystery, animals, adventure, comics, and humor. Notes that interests appear to have changed little over the years. Factors affecting reading interests include sex, age, literary quality, and the reading program.

PIERONEK, FLORENCE T. Do basal readers reflect the interests of intermediate students? *The Reading Teacher*, January 1980, 33, 408-412.

Reviews the research on basal reader patterns and intermediate grade pupil interests and presents the results of story analysis of eight series of basal readers, grades four through six. It was concluded that, with minor exceptions, the basal series stories do represent the reading interests of intermediate grade pupils.

LOVELACE, TERRY. Elementary readers' inferences of and preferences for characteristics of protagonists in stories. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 249-253.

Investigates reactions of 199 elementary school subjects, enrolled in third through sixth grade classrooms, towards male and female protagonists in stereotyped and non-stereotyped sex roles. The subjects read eight 200-word story segments containing 13 sex role stereotypes, four containing protagonists in the stereotyped roles and four with the roles reversed. Age and reading ability were significantly related to sex role stereotypic schemata, the older the student and/or better the reader, the more stereotypic the inference. Readers preferred stories featuring stereotyped male, stereotyped female, or non-stereotyped female protagonists as compared to non-stereotyped males in feminine roles.

GREANEY, VINCENT. Factors related to amount and type of leisure time reading. *Reading Research Quarterly*, 1980, 15(3), 337-357.

Researches the relationship between amount of time devoted to leisure reading and various personal, home, and school variables. All fifth grade pupils (N = 920) in a sample of 31 Irish primary schools were included. Children completed a diary of their leisure time activities for each of three nominated days in a one-week period. Diaries were completed in school on the days following the periods to be kept track of. An average of 5.4% of available leisure time was devoted to leisure reading. In terms of amount of time spent, book reading took precedence over comic reading with newspaper reading having the least amount of leisure time devoted to it. About 23% of the variation in time devoted to books was accounted for by a combination of variables of gender, reading attainment, school location, library membership, and birth order. Girls tended to devote more time to book reading and boys, to reading comics.

QUINN, JOHN. The relationship between television viewing and reading: a review of the research. In Vincent Greaney (Ed.) *Studies in Reading*. Dublin: The Educational Co., 1977. pp. 58-66.

Surveys the literature on the relationship between television viewing and amount of reading, level of reading achievement, and reading tastes. The studies reviewed suggested that television viewing peaked in children at about ages 12 to 14. With the advent of TV, the number of hours devoted to reading appeared to drop but seemed to recover its original level within several years. There was little direct evidence that TV viewing reduced the amount of time spent in private reading. TV does appear to influence children's tastes in reading.

FERGUSON, ANNE M. Applying the cloze procedure to children's book selections. *Reading Horizons*, Spring 1980, 20, 196-200.

Applies cloze procedures to books selected from the library by 30 sixth graders. After the pupils had independently selected the book they wanted to read, the experimenter collected the books and constructed 50-item cloze tests on one passage from each book. Each pupil took the cloze test only from the book he or

she selected. These procedures were done three times during the school year, thus there were 90 cloze tests (and books). From the 30 pupils, the eight highest and seven lowest achieving readers were designated by using the *SRA Assessment Survey: Reading*. The high achievers had an average grade score of 10.0; the low readers' average score was 5.5. Performance on the 90 cloze tests was categorized as indicating frustration, instructional or independent level. In 88 cases, children had selected books at their instructional level (32 books) or their independent level (56 books). Only two books were at the child's frustrational level. There was no significant difference between boys and girls in the difficulty level of books selected. Of the 21 books selected by low achievers, two were at the frustrational level, 16 at the instructional, and three at the independent. High achieving pupils always selected books at their independent level. Other characteristics of the books were presented. It was concluded that children do generally select books which they are able to read.

IV-17 Attitudes and affect toward reading

BROWN, DOROTHY H.; ENCIN, ANN W.; & WALLBROWN, FRED H. Developmental changes in reading attitudes during the intermediate grades. *Journal of Experimental Education*, Spring 1979, 47, 259-262.

Administers *A Survey of Reading Attitudes* to 431 intermediate grade inner-city children and notes developmental changes in attitude towards reading. The survey consists of 83 items, distributed among eight dimensions of reading attitude. ANOVA treatment of the results identified significant developmental changes in five of the eight dimensions: Expressed Reading Difficulty, Reading Anxiety, Reading as Direct Reinforcement, Silent vs Oral Reading, and Comics. The changes were not consistent between grades nor equally notable between dimensions. Three of the eight dimensions showed no significant developmental differences; Reading as Enjoyment, Alternative Learning Modes, and Reading Group.

ROETTGER, DORIS. Elementary students' attitudes toward reading. *The Reading Teacher*, January 1980, 33, 451-453.

Discusses selected comparisons of attitudes of 36 low attitude/high reading performance pupils and 39 high attitude/low reading performance pupils. Subjects were fourth, fifth, and sixth graders. Reading attitudes were assessed with the *Estes Attitude Scales: Elementary Form*. Reading was assessed with the comprehensive subtest of the *Iowa Tests of Basic Skills*; reading classification consisted of top or bottom quartile norm performance. The attitude measure was administered a second time a year after the initial administration, and pupils were also interviewed at that time. Responses indicated differences in reading expectation between the two groups; high attitude/low performance pupils viewed reading as important to life survival while low attitude/high performance pupils perceived reading as a means of personal improvement and academic success. Both groups felt too little time and concern was given to personal reading in classrooms.

DOLAN, LAWRENCE. The affective consequences of home support, instructional quality, and achievement. *Urban Education*, October 1978, 13, 323-344.

Focuses on the affective consequences of three dimensions of school experience. The quality of instruction received, the pupil's accumulated achievement record, and the degree of home concern and support for the pupil. Three instructional programs were selected for study. The first, the child-parent center

program, was a program in an urban, black, poverty area which met the requirements of high quality of instruction. The program began at age three and continued through grade six, involved parents, and provided systematic, mastery-based instruction in skills. Two control schools were included. One had a strong emphasis on systematic instruction (Control I), and the second had a variety of special programs but lacked any continuity in their implementation (Control II). Schools were comparable in terms of geographic location, race, parent education, poverty level, student mobility, and attendance. School records were utilized to obtain grades and achievement scores in reading and arithmetic on the *Iowa Test of Basic Skills*. Home concern and support was assessed by the use of a semistructured inventory focusing on such factors as parent's knowledge and interest in school-related activities, parent's interaction with the child on school activities, supportive aspects of the home environment for academic activities, and the parent's belief in the utility of schooling. Affective outcomes studied were student's academic self-concept and academic locus of control. At the youngest ages, achievement showed little relationship to a pupil's affective responses with the exception of non-academic self-esteem. At grades three and four, a pupil's relative standing within his class shows a mean correlation coefficient of .29 with affective variables, but this relationship diminishes by the upper elementary grades. The relationship of home concern and support for the child to the affective dimensions diminished gradually over the six grades. The home environment variables had a significant impact on academic achievement. Instructional quality had a major impact on affective growth.

LEWIS, JOHN. The relationship between attitude toward reading and reading success. *Educational and Psychological Measurement*, Spring 1980, 40, 261-262.

Correlates scores on an attitude inventory with reading subtest scores on the *Metropolitan Achievement Tests* for 149 third, fourth, and fifth graders. A coefficient of .17 was found.

WALLBROWN, FRED H.; VANCE, HUBERT H.; & PRICHARD, KAREN KIDD. Discriminating between attitudes expressed by normal and disabled readers. *Psychology in the Schools*, October 1979, 16, 472-477.

Reports on the results of administering the *Survey of Reading Attitudes*, an eight dimensional self rating inventory, to 84 normal progress readers and 116 disabled readers, drawn from a population of Appalachian rural white intermediate grade pupils. Criteria for the disabled reader group included reading achievement (*Gates-MacGinitie Reading Test*) of at least one year below expectancy (*Slosson Intelligence Test for Children and Adults*). Three of the eight dimensions discriminated significantly ($F = .05$ to $.001$) between the two populations: Expressed Reading Difficulty, Reading as Enjoyment, and Reading Group. For this population, the authors interpreted the results to mean that disabled readers are conscious of their reading problems, feel more negative about their reading instructional situation, and have less tendency to see reading as having an intrinsic value.

SHANNON, ALBERT J. Effects of methods of standardized reading achievement test administration on attitude toward reading. *Journal of Reading*, May 1980, 23, 684-686.

Investigates the influence of three approaches to the administration of the *Nelson-Denny Reading Test* upon attitudes toward reading. Subjects were 120 students randomly selected from a population of 450 tenth graders, and then randomly assigned to one of four treatment groups: 1) Counseled Group—counseled about the nature and purpose of the text and then about their scores; 2) Score Only Group; 3) No-Score (provided) Group; and 4) a Control Group which

filled out the attitude survey but did not take the test. The reading attitude instrument consisted of 35 items. The results indicated that effects for methods of administration and differences in reading scores obtained were significant ($<.01$). Students who scored higher on the reading test revealed more positive attitude ratings. The Counseled Group had the most positive attitudes and the No Score Group revealed the least positive attitudes.

IRWIN, JUDITH WESTPHAL. College readers' mental imagery, reading ability and attitude toward reading. *Reading Improvement*, Summer 1979, 16, 124-129.

Investigates the relationship among college readers' reading achievement, self-reported vividness of mental imagery, and attitude toward reading. The 145 junior and senior college students involved were given the *Nelson-Denny Reading Test*, the *Questionnaire Upon Mental Imagery: Shortened Version*, and the *Mikulecky Attitude Inventory*. A small negative coefficient of correlation ($-.1492$) was found between reading achievement and vividness of imagery. The correlation coefficient between reading achievement and attitude scores was .436. When effects of reading scores were controlled, a partial coefficient of .219 was found between imagery and attitude scores.

O'KEEFE, BARBARA J., & DELIA, JESSE G. Construct comprehensiveness and cognitive complexity as predictors of the number and strategic adaptation of arguments and appeals in a persuasive message. *Communication Monographs*, November 1979, 46, 231-240.

Investigates the hypothesis that systems of interpersonal constructs form the basis for communication choices. Forty-two undergraduates were provided with an array of newspaper and magazine information of a stereotyped nature and subsequently wrote an impression of this person and a persuasive message directed to him. Later the subjects completed a role category questionnaire to assess interpersonal cognitive complexity and a role construct repertory test and grid to assess interpersonal construct permeability. The moderate positive correlation between the two social cognitive indices measures and the communication performance met test significance.

IV-18 Personality, self-concept, and reading

COHEN, MARGARET W., & MOSENTHAL, PETER. The relationship between teacher-student interaction and students' reading comprehension. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 239-245.

Examines the extent to which different teacher-student interaction patterns influence the manner in which pupils choose to assign a particular type of meaning to text. Subjects were 28 fourth graders, placed into three reading groups on the basis of *Metropolitan Reading Achievement Test* scores. Six observations of teacher-pupil interactions were made for each reading group over a four-week period. At the time of the seventh scheduled observation pupils were given a comprehensive test and also asked to write everything they could recall about the stories previously read. Interaction patterns were noted to determine whether pupils complied with the teachers' goals or determined their own. A modification of the Hit-Steer Observation System was utilized. The system defines a hit as a verbal initiation, or influence attempt, requesting compliance. A steer is compliance with a hit. Pupil behaviors were classified as: 1) steers, 2) on-task hits, or 3) off-task hits. Hits were scored when a pupil either made a request of the teacher or

proffered information not directly requested by the teacher. Steers were compliance with a teacher request. Off-task hits involved a deviation from the general theme of the reading activity, and on-task hits were directly related to the theme. Pupils were classified as Task Compliant, On-Task Initiators, or Off-Task Initiators depending on scores on the observation schedule. Written recall to three paragraphs was categorized as referential, logical inference, or pragmatic inference. The paragraphs read each had a sentence containing similarly classified statements. Compliant pupils used predominantly referential propositions; on-task initiators used predominantly logical inferences; and off-task initiators, pragmatic inferences.

PIERONEK, FLORENCE T. Effect of classroom reading approach on learning style of fourth and fifth graders. *Reading Improvement*, Spring 1980, 17, 80-84.

Examines the question of whether a particular classroom reading approach affects a student's learning style. Learning style was determined by an author-designed instrument, the *Student Form and Teacher Form*. The instrument was administered to 213 fourth- and fifth-grade pupils, 104 of whom were in individualized approach classrooms and 109, in basal approach classrooms. In addition to pupils, the eight teachers involved also filled out the learning style instrument for each pupil in their classrooms. Four learning styles were found: 1) Predominantly Creative, 2) Predominantly Undisciplined, 3) Anxious-Acceptance/Rigid-Inhibited, and 4) Combined learning style. No significant relationship was noted between reading approach and pupil learning style. A further analysis did indicate that those children with higher mean intelligence scores tended to be in the Predominantly Creative learning style group.

NICHOLS, S. L.; NICHOLS, K. A.; & BURDEN, R. L. The relationship between self-evaluation and reading progress: some paradoxical findings. *Remedial Education*, 1977, 12(4), 191-193.

Compares good and poor readers' self esteem in two contexts: 1) a school where there is a low proportion (9.3%) of disabled readers, and 2) a school where the proportion of disabled readers was high (33.6%). (How these proportions were determined was not reported.) Subjects were between 9-4 and 10-10 years of age and attended English middle schools. Subjects scoring two years below CA on the *Holburn Reading Scale* were designated poor readers. Thirty-seven poor readers and 26 adequate readers were identified. Self esteem was measured on a Semantic Differential Scale. The average self esteem scores of all good and all poor readers did not differ significantly. There were school $\times$ reading ability interactions, however. Poor readers in the school with 33.6% retarded readers had significantly higher self evaluations than all other groups. The authors concluded that the social context in which a child is placed influences the child's self evaluations.

DOWLING, J. R. Adjustment from primary to secondary school: a one year follow-up. *British Journal of Educational Psychology*, February 1980, 50, 26-32.

Relates data obtained during children's final year in a British primary school to their personality, behavioral, and educational adjustment in the first year of secondary school. Complete information was available for 482 children. Included in the data collected in the primary school were: *Moray House Test 91*, a test of verbal reasoning; *National Foundation for Educational Research Test SRB*, a test of sentence reading comprehension; *Junior Eysenck Personality Inventory*; Child Scale B, for behavior; attendance; sex; and a four-point scale of teachers' predictive ratings. Criterion variables in the secondary school incorporated measures of attendance, attitude, behavior, and teachers' ratings. The teachers' predictive ratings in the primary school correlated significantly with all four criterion variables, ranging

from $-.16$ (attendance) to $.38$ (behavior). Reading Quotients as obtained on the sentence reading test correlated $.19$ with secondary teachers' ratings and also with attendance, $-.10$ with attendance, and $-.27$ with behavior. A multiple correlation coefficient of $.50$ was obtained between behavior and the nine primary school variables.

HAMMOND, JANICE M. Children of divorce: a study of self-concept, academic achievement, and attitudes. *The Elementary School Journal*, November 1979, 80, 55-62.

Tabulates detailed comparisons of the results of administering the *Piers-Harris Children's Self-Concept Scale* and the *Attitude Toward Family Questionnaire* to 82 children from divorced families and 83 children from intact families. Subjects were drawn from both sexes in grades three through six and attended elementary schools in middleclass suburban communities. Children of divorced homes completed the *Hammond Children of Divorce Questionnaire*. Teachers completed the *Walker Problem Behavior Identification Checklist* concerning the subject's school behavior, and rated the subject's achievement in reading and mathematics on a nine-point scale. Analysis of the data revealed no significant group differences in self-concept or teacher's rating of achievement. Boys from divorced families were rated significantly more often as "acting out" and "distractable." Boys from divorced families were significantly less satisfied with amount of time and attention received from their mothers than boys from intact families.

EWING, JAMES M. Attitudes to reading failure. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977. Pp. 275-289.

Explores attitude toward reading failure as revealed by British pupils, teachers, and parents through questionnaire and interview procedures. Pupil samples consisted of 118 distributed from under eight to over 16 in CA and ranging in reading age-chronological age discrepancies from under 11 months to 95 months. Reading age was determined by use of the *Schonell Word Recognition Test*. Sixty-seven teachers (38 classroom and 29 remedial) and 12 parents (of 24 contacted) also responded. The selected descriptive findings include implications that a significant minority (42%) of the pupils felt they were at least average readers; most (66%) were embarrassed by their poor reader label, and a majority felt they would have no reading problems after leaving school. A minority of teachers viewed working with disabled readers as a pleasure, and few teachers perceived pupil embarrassment at being identified as a poor reader. Parent response varied considerably.

BROWN, NEAL M. Parental attitude, children's personality and the pupil in the classroom. *Remedial Education*, 1977, 12(3), 136-140.

Evaluates the effects upon reading of: 1) parental acceptance and rejection, 2) children's neuroticism and 3) children's extraversion. Subjects were 134 boys and 65 girls, ranging in age from 7-1 to 12-4, attending a Glasgow clinic for treatment for mild emotional disturbance. The number of children referred for 11 different behavior difficulties was reported. Children suspected of brain damage (by performance on the *Bender Gestalt Test* or psychiatric examination) were not included in this sample. The children were divided into four groups by age and sex: younger and older boys, and younger and older girls. Reading was measured with the *Schonell Word Reading Test*. Neuroticism and Extraversion were measured on the *Junior Eysenck Personality Inventory*. Parental attitudes were determined by a team of five social workers. Levels of reading achievement were calcu-

lated using a regression formula in which WISC-R Verbal IQ scores and CA were the predictor variables. *Chi-Square* and *Fisher* tests indicated that parental acceptance was related to reading achievement for all groups, except older boys. High Neuroticism was associated with reading achievement for younger girls and younger boys. Introversion was associated with reading achievement for older boys. The implications of these results for teachers were discussed.

BEHRENS, L. T., & VERNON, P. E. Personality correlates of over-achievement and under-achievement. *The British Journal of Educational Psychology*, November 1978, 48, 290-297.

Studies the personality correlates of achievement with and without IQ held constant. Subjects were 155 male and 132 female seventh graders from three Calgary (Canada) public junior high schools. They were representative of the socioeconomic status range of the city. The following measures were given: 1) the *Canadian Cognitive Abilities Test*, 2) the *Moray House English Tests*, 3) a multiple choice mathematics test prepared for the study, 4) selected items from the *Frost Self-Description Questionnaire* and the *Coppersmith Self-Esteem Inventory*, and 5) a sentence completion test designed to assess attitudes. In addition, teachers' percentage marks of pupils' performance in English and mathematics were collected. Substantial correlations were obtained between the ability and personality variables, with marked sex differences. However, when multiple correlation coefficients were calculated between intelligence and personality variables as predictors of mathematics and English achievement criteria, the beta weights for personality variables were mostly small and relatively inconsistent.

AMES, CAROLE, & FELKER, DONALD W. Effects of self-concept on children's causal attributions and self-reinforcement. *Journal of Educational Psychology*, October 1979, 71, 613-619.

Presents the results of a study designed to clarify the cognitive-attribitional and affective components of high and low self-concept children. Subjects were selected on the basis of their performance on shortened versions of the *Piers-Harris Self-Concept Scale* and the *Children's Manifest Anxiety Scale*. The 64 sixth-grade subjects selected were those scoring in the top ($N = 32$) and bottom ($N = 32$) thirds on the reduced forms of the two tests. The experimental tasks were puzzles with lines the children had to trace. Before being given the puzzles, pupils were informed that both luck and skill were needed to do well on the tasks. Children assessed their performance by the number of puzzles correctly and incorrectly solved, but actually success and failure had been predetermined by controlling the number of solvable and insolvable puzzles presented. Children then 1) attributed their performance as lucky, unlucky, skillful or unskillful; 2) stated how many stars (1-10) their performance merited; and 3) responded to questions measuring self congratulations and self praise. High, more than low, self-concept children attributed their success to the skill cue. High self-concept children also engaged in more self-reward for success. Both self-concept groups used lack of skill to account for their failure, but the low group responded with more self-punishment.

GOSE, AILEEN; WOODEN, SHARON; & MULLER, DOUGLAS. The relative potential of self-concept and intelligence as predictors of achievement. *The Journal of Psychology*, March 1980, 104, 279-287.

Explores the effect of combining self-concept measures with intelligence measures to improve prediction of achievement. Two self-concept tests (*Self-Descriptive Inventory* and *Academic Self Concept Inventory*), an intelligence test (*Short Form Test of Academic Aptitude*), and an achievement test (*Comprehensive*

Tests of Basic Skills) were administered to 47 male and 49 female sixth graders drawn from regular public school classrooms. Correlation coefficients were highest for verbal IQ and reading achievement (.86) and next highest with total achievement (.70). All multiple coefficients achieved significance except for the Self Descriptive Inventory/language skills relationship. Academic self-concept contributed slightly to the prediction when combined with intelligence. Specific content area self-concepts for reading, language, and mathematics contributed more usefully than general academic self-concept and notably better than physical and peer relation self-concepts.

BAZEMORE, JUDITH S. Personality and reading achievement: a second study. *Reading Improvement*, Winter 1978, 15, 317-321.

Examines the relation between personality, reading achievement and intelligence for 136 fifth graders. Tests administered were: the *California Comprehensive Test of Basic Skills*, the *California Short-Form Test of Academic Aptitude* and the *Children's Personality Questionnaire* (CPQ). Mean IQ for the group was 94 and the average reading grade was 4.6. Using Bond and Tinker's expectancy formula, children were classified as average readers ($N = 65$) and below average readers ($N = 71$). There are 14 personality factors assessed on the CPQ, and though six were significantly correlated with reading achievement and seven with IQ, only one differentiated good and poor readers, and that was the less intelligent—more intelligent factor.

BROWN, JAMES I.; & MCDOWELL, EARL E. The role of self-image on reading rate and comprehension achievement. *Reading Improvement*, Spring 1979, 16, 22-27.

Explores the effects of student self-image as a reader on improvement in reading rate and comprehension. Self-image was assessed by asking students to rate their upper limit (in words per minute) for reading a magazine. Students rating themselves above the mean were designated high self-image, and those whose ratings were below the mean were designated low self-image. Self-image, reading rate and reading comprehension were measured at the beginning, middle, and end of a ten week course, Efficient Reading. Subjects were 70 college students. Students with high self-images read significantly faster than low self-image students at the beginning, middle, and end of the course. The differences in self-image ratings between students decreased over the course, because low self-image students gained more. The correlation coefficient between rate and comprehension changed from +.49 at the beginning of the course to -.24 by the end.

BUTKOWSKY, IRWIN S., & WILLOWS, DALE M. Cognitive-motivational characteristics of children varying in reading ability: evidence for learned helplessness in poor readers. *Journal of Educational Psychology*, June 1980, 72, 408-422.

Examines certain specific self-perceptions that might contribute to motivational and performance deficits observed in children with reading difficulties. Subjects were 72 boys selected from 123 grade five boys attending regular classes in four middle class schools. On the basis of the *Gates-MacGinitie Reading Tests* and the IPAT, the 72 boys were divided into equal groups of good, average and poor readers. There were no significant difference between the groups in average age (10-3) or IQ (111). The reading task required identifying pronounceable and unpronounceable words. A second task (called unspecified) consisted of tracing line drawings. Time to complete these tasks was the measure of persistence. Before starting either task, the boys reported how well they thought they would do. After completing the tasks, subjects were asked to choose from among four options the reason they did (or did not) do well. Consistent with predictions, poor readers

displayed characteristics indicative of learned helplessness and low self-concepts of ability. These included significantly lower initial estimates of success, less persistence, attribution of failures to lack of ability and of successes to factors beyond personal control, and greater decrements in expectancy of success following failure. Implications for education and reading remediation were discussed.

BOERSMA, FREDERIC J.; CHAPMAN, JAMES W.; & BATTLE, JAMES. Academic self-concept change in special education students: some suggestions for interpreting self-concept scores. *Journal of Special Education*, Winter 1979, 13, 433-442.

Compares pre-post changes over one calendar year in scores on the *Student's Perception of Ability Scale* (SPAS) for 68 full-time special class and 83 regular class elementary school children in the eight to 12 CA range. Fifty of the special class subjects received remedial assistance in severe learning disabilities classrooms while 18 were participants in educable mentally handicapped programs. Full scale SPAS ratings significantly favored regular class subjects, but pupils placed full time in the learning disabled adaptation settings made significant increases in academic self-concept, especially in the areas of reading/spelling and confidence.

SMITH, MONTE D. Prediction of self-concept among learning disabled children. *Journal of Learning Disabilities*, December 1979, 12, 664-669.

Employs multiple-regressive analyses to the results of administering the *WISC-R*, the *Metropolitan Achievement Test*, and the *Piers-Harris Self-Concept Test* to 218 subjects drawn from 23 learning disabilities classrooms of a metropolitan school system. Parental SES information was available for 147 of the subjects who were used in the final analysis. Subject CA's ranged from seven to 12 years. No specific definition or criteria of learning disabled was provided. Group mean Verbal IQ was 85 and mean Performance IQ was 93. Subjects from high SES families revealed lower self-concepts than those from lower SES families. IQ and reading performance exhibited little relationship to self-concept. The combination of word knowledge, math scores, and family SES significantly predicted self-concept.

WHALEY, W. JILL; KIBBY, MICHAEL W.; & GAIER, EUGENE L. Self-esteem patterns of child rearing and gain in reading achievement of disabled readers. *Reading Improvement*, Fall 1979, 16, 242-247.

Investigates the relationships obtaining between gains in a six week summer remedial reading program, self esteem, and child rearing practices. Assessment instruments included the *Peabody Picture Vocabulary Test*, *Coopersmith's Self-Esteem Inventory*, *Parent Attitude Research Instrument*, and the *Gates-MacGintie Reading Test*. Subjects consisted of 17 boys and seven girls, grades two through eleven, who received individual reading instruction approximately forty-five minutes daily for five weeks. Instructors consisted of 15 experienced teachers in the final phase of a graduate reading education program. Average gain in reading vocabulary was .24 years and .16 years in reading comprehension. Analysis of covariance to test the contribution of self-esteem beyond the contribution of intelligence to reading proved nonsignificant. No significant relationship emerged between child rearing patterns and progress in the six week remedial reading program.

FULLER, GERALD B., & LOVINGER, SOPHIE L. Personality characteristics of three sub-groups of children with reading disabilities. *Perceptual and Motor Skills*, February 1980, 50, 303-308.

Investigates personality characteristics in poor readers. The *Peabody Picture Vocabulary Test*, *Durrell Analysis of Reading Difficulty*, *Minnesota Percepto-Diagnostic Test*, and the *Rorschach* were administered to 64 children, CA of seven

to 14 years, who met the criteria of one and one-half years of reading deficit; normal range intelligence, and adequate vision. Subjects were classified into one of three groups according to the Minnesota Test: I, Primary or Auditory Deficit but no minor visual motor problems; II, Secondary Reading Disability or Visual Deficit with capacity to read intact; and III, Organic or Mixed Deficit with severe perceptual-motor distortion. Five of nine Rorschach scores significantly differentiated the three groups: large details, small details, animal, human movement, and content, animal movements. Qualitative interpretations of findings are included.

MAUER, RUTH A. Young children's responses to a physically disabled storybook hero. *Exceptional Children*, February 1979, 45, 326-330.

Compares the responses of 61 orthopedically handicapped and 66 non-disabled children, ages four to seven, to two taped versions of a children's story about friendship. Text and supplementary pictorial presentations were adjusted to present one of the central characters as physically disabled or nondisabled. The analysis of results revealed that disabled subjects, particularly the females, identified significantly more with the disabled hero and nondisabled children identified significantly more with the nondisabled. Nondisabled females revealed little difference in identification.

STRANG, LOUISE; SMITH, MONTE D.; & ROGERS, CARL M. Social comparison, multiple reference groups, and the self-concepts of academically handicapped children before and after mainstreaming. *Journal of Educational Psychology*, August 1978, 70, 487-497.

Reports the results of two experiments that assessed the impact of mainstreaming on self-concept. Subjects of Experiment 1 were 50 academically handicapped children in eight segregated classrooms. Average age ranged from 6-2 to 10-10; 84% were white and 78% male. Average WISC-R IQ was 87. The *Metro-politan Achievement Test* was administered in October and May. The *Piers-Harris Children's Self-Concept Scale* was administered in October, March, and May. Twenty-five subjects from four of the classrooms were mainstreamed into regular classes for half-days beginning in January or February. The other 25 subjects were controls who remained in their special classes all day. At the end of the year the experimental groups improved significantly in self-concept, though there was no significant difference in reading, math, or IQ. Experiment 2 was conducted to determine if the results of Experiment 1 were caused by children selectively utilizing the two available comparative reference groups in maintaining and augmenting their self-regard. Subjects were 20 academically handicapped children: 10 experimental and 10 controls. They ranged in age from 8-3 to 11-0 and had average WISC IQs of 92. All subjects were mainstreamed for half-days beginning in November. Piers-Harris measures were obtained in September and again after six weeks of mainstreaming. While taking the Piers-Harris, the ten experimental subjects were told to compare themselves to mainstream children. The ten controls were tested in the usual manner. The mainstreamed control group manifested higher self-concept in December than September; the experimental groups decreased in self-concept. The results were interpreted as supportive of the theoretical viability of social comparison theory and group reference theory in educational settings.

MCMICHAEL, PAPOUITA. Reading difficulties, behavior, and social status. *Journal of Educational Psychology*, February 1980, 72, 76-86.

Evaluates the effect of reading difficulties and behavior on peer rejection and popularity. All 198 boys entering the first class (Primary 1) of eight Edinburgh, Scotland, primary schools served as subjects. Most boys' fathers had manual

occupations. During Primary 1 and Primary 2, the boys were administered a number of cognitive and affective measures: the *Children's Behavior Questionnaire* (CBQ), the *Thackray Reading Readiness Profiles*, the *Southgate Tests of Word Selection*, the *Columbia Mental Maturity Test* (CMMS) and a sociometric inquiry, (administered in both Primary 1 and 2). At the end of Primary 2, 168 boys still remained. At this time, a questionnaire was administered to the assistant head teachers who were in charge of the first three years of primary school. On the basis of the CBQ, children were classified as neurotic, stable or antisocial. The Southgate test was used to identify good and poor readers. Rejected children came from more adverse social backgrounds and were conceptually (CMMS) more limited than popular students. When poor readers were rejected, it was because of their antisocial behavior rather than their reading problems. Stable poor readers (CBQ) who conformed to classroom requirements were no more rejected than good readers of equivalent behavior, though they were less popular.

LANE, DAVID. Limitations of counseling with retarded readers. *Remedial Education*, 1976, 11(3), 120-121.

Argues that not all neurotic children suffer high anxiety. Hypothesizes that some have low anxiety and that the low guilt and low drive of these children works against the effects of remedial or counselling help. Administered an unnamed personality test measuring toughmindedness, neuroticism, and extraversion to 30 secondary school students who had failed to make progress in remedial reading. After six months of counselling, the children who had scored high in toughmindedness and low in neuroticism had made less progress than other children (how progress was measured was not indicated). Suggests that counselling must take into account the students' personality.

WEST, ELLEN M., & LAGOTIC, DIANA L. The accuracy of adult disabled readers' perceptions of their own reading difficulties. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 161-162.

Tests the accuracy of 184 adults, ages 15 to 84, in self perception of reading difficulty. Subjects were asked to respond to the *Adult Reading Survey* (ARS), an instrument consisting of nine items related to specific reading and word recognition skills. Sections of the *Test of Adult Basic Education* and the *Botel Reading Inventory* were utilized in verifying the problem areas identified by subjects on the ARS. Greatest accuracy between subjects' self perceptions and actual test results were found for vocabulary, inference, and middle and ending sounds. Correlation coefficients obtained for those three areas were .40, .38, and .33, respectively. Less able readers generally did not perceive their reading problems, but better readers tended to be more accurate in their perceptions of overall ability.

JOHNSON, ARTHUR. Reading achievement of Florida migrant children with differing levels of self concept. *Reading Improvement*, Fall 1979, 16, 198-202.

Examines the differences in reading achievement of Mexican-American children with differing levels of self-concept. A total of 650 students in grades two through six in 31 classrooms were tested. Results were reported on a subgroup of that sample: 176 Mexican-American migrant children, 88 boys and 88 girls. (The self-concepts of the present sample of Mexican-Americans were compared, however, to 176 non-migrant children; presumably, this latter group was part of the group of 650.) The tests administered were the *Comprehensive Tests of Basic Skills* reading subtests and the *Piers-Harris Children's Self-Concept Scale*. An analysis of variance revealed a significant difference in the means of the reading achievement scores assigned to the pupil's corresponding quartile level of self-concept. Subse-

quent analysis with the Newman-Keuls statistic indicated that the mean reading achievement in the upper self-concept quartile was significantly higher than reading achievement means of the lower, lower-middle, and upper-middle self-concept quartile groups. However, no difference was determined between the reading achievement mean values of the latter groups. A supplementary finding in this study was that migrant children had a significantly lower self-concept than non-migrant children.

SHIOMI, KUNIO. Differences in reaction times of extraverts and introverts to Rapaport's word association test. *Psychological Reports*, August 1979, 45, 75-80.

Examines the differences in defense mechanisms between extraverts and introverts by evaluating the defensive responses to the emotional stimuli of Rapaport's *Word Association Test* (WAT). Subjects were 20 male and 20 female students (average age 22-24) attending Tottori University in Japan. Stimuli were Japanese translations of the 20 traumatic and 40 nontraumatic words of the WAT. After resting with their eyes closed for five minutes, subjects were shown the words on a card and they reported their associations as quickly as possible. Content responses were recorded. Personality was measured by Japanese versions of the *Maudsley Personality Inventory* and the *Taylor Manifest Anxiety Scale*. Significant negative correlations were obtained between reaction times and Extraversion scores on the *Maudsley Personality Inventory*, but positive correlations with Neuroticism scores were obtained.

RIBICH, FRED D., & SCHMECK, RONALD R. Multivariate relationships between measures of learning style and memory. *Journal of Research in Personality*, December 1979, 13, 515-529.

Analyzes scores on three learning style instruments and performance on two learning tasks. The learning style instruments were the *Inventory of Learning Processes*, the *Study Behavior Questionnaire* and the *Learning Style Inventory*. Learning tasks were orally presented word lists and prose passages. Two 20 word lists were presented, one of unrelated nouns and one consisting of four exemplars for each of five noun categories. There were four prose passages, two similar to textbook material and two containing contrived fictional content. These word lists and passages were presented to 106 undergraduates in groups of 20-25 over a period of three weeks. Both immediate and delayed measures of retention were obtained. Canonical correlation analysis of the learning style instruments indicated that there was a small to moderate amount of overlapped variance. Inspection of the canonical variates revealed that what overlap existed was generally due to a common factor related to the depth of processing conception of memory. No significant canonical correlations were obtained between any of the learning style instruments and word list retention measures. The findings have implications concerning the validity and equivalency of available self-report instruments assessing learning style.

MORGAN, RAYMOND F., & CULVER, VICTOR I. Locus of control and reading achievement: applications for the classroom. *Journal of Reading*, February 1978, 21, 403-408.

Cites research on the relationship of locus of control to instructional theory and achievement.

FISHER, RICHARD I., & DYER, BARBARA. Locus of control: the effect on reading and instructional preference. *Reading Improvement*, Winter 1978, 15, 271-275.

Reports tandem studies of the relationship between locus of control (internal/external) as assessed by the *Rotter I-E Scale* and instructional dimen-

sions of a seven-week college reading and study skills course. The first study found no significant difference between those of the 129 subjects with internal locus and preference for hardware or software instructional approaches; but external locus subjects showed a small significant preference for hardware. A second group of 46 students revealed no significant difference between internal locus and external locus on improvement of reading rate with software and hardware instruction as an experimental variable. Neither group revealed a significant preference for self-directed or teacher-directed instruction.

BROWN, DOROTHA H.; ENGIN, ANN W.; & WALLBROWN, FRED H. Locus of control and reading attitude. *Psychology in the Schools*, July 1979, 16, 336-338.

Views the relationship between three measures of locus of control and eight dimensions of reading attitude. A total of 431 grade four, five, and six pupils in three inner-city schools served as the population. The *Intellectual Achievement Responsibility Questionnaire* was given as a measure of locus of control; the *Survey of Reading Attitudes* was administered to give the eight attitudinal dimensions. No clear-cut set of relationships between the two domains was found. The highest correlation coefficient obtained was between the scores on the Reading Ability scale and a locus of control score suggesting a willingness to assume personal responsibility for failure.

BAR-TAL, D.; KFIR, D.; BAR-ZOHAR, Y.; & CHEN, M. The relationship between locus of control and academic achievement anxiety, and level of aspiration. *British Journal of Educational Psychology*, February 1980, 50, 53-60.

Investigates the relation of locus of control to academic achievement, anxiety and level of aspiration while controlling for socioeconomic status. The study also compares two groups of Israeli students: those of Asian-African origin (called externals) and those of European-American-Israeli origin (called internals). The subjects were a stratified random sample of the total population of ninth grade students in Israel. Half the subjects were externals, half internals. The instruments were: 1) a six-item measure of locus of control, 2) a measure of socio-economic status, 3) four standardized tests of academic achievement (English, Mathematics, Comprehension and Bible), 4) Sarason's *Test Anxiety Scale for Children* and 5) a four-item measure of level of aspiration. For internals, correlation coefficients between locus of control and the other four variables ranged from .19 to .29; for externals, the range was .14 to .41 (academic achievement). When socioeconomic status was controlled, the coefficients were altered minimally. On all measures except manifest anxiety, internals scored significantly higher than externals.

BENDELL, DEBRA; TOLLEFSON, NONA; & FINE, MARVIN. Interaction of locus-of-control orientation and the performance of learning disabled adolescents. *Journal of Learning Disabilities*, February 1980, 13, 83-86.

Investigates the interaction of locus of control and methods of reinforcing learning for learning disabled junior high school boys. Locus of control was measured with the *Intellectual Achievement Responsibility Questionnaire* (IARQ). The test was administered to 97 boys, and then 25 boys with internal locus of control (mean IARQ score = 28.1) and 25 boys with external locus-of-control (mean IARQ score = 16.4) were selected as the subjects. Subjects were given two 15 word spelling tests, one on each of two consecutive days in the following manner: pretest, study, posttest. The experimental treatments were the methods of study. One was labeled lowly structured reinforcement; subjects studied the words with no specific instructions and were given a nickel for improvement from pretest to posttest. In the

highly structured reinforcement treatment, specific instructions on how to study the words were given. All boys received both treatments. WISC-R scores (not reported) were used as covariates in the data analysis. Students with internal locus of control performed significantly better in the low-structure treatment, and subjects with external locus of control performed significantly better in the high-structure condition.

DUNN, RITA; PRICE, GARY E.; DUNN, KENNETH; & SAUNDERS, WILLIAM. Relationship of learning style to self-concept. *The Clearing House*, November 1979, 53, 155-158.

Examines the relation between learning style and self-concept. Learning style was assessed by Dunn, Dunn and Price's *Learning Style Inventory* (LSI). LSI is composed of questions of 24 areas. Responses tend to reveal personal characteristics that, when combined, represent the way each student learns with maximum ease. Self-concept was assessed with Gordon's *How I See Myself* scale. Subjects were 321 third, sixth, and seventh graders in 12 different New York City schools. The mean self-concept score was used to divide subjects into a high self-concept group (183 subjects) and a low self-concept group (166 subjects). Eight LSI variables accounted for a significant difference between high self-concept and low self-concept subjects. The implications of these results for teachers were discussed.

ROBERTS, TESSA. Reflection-impulsivity and reading ability in seven-year-old children. *British Journal of Educational Psychology*, November 1979, 49, 311-315.

Concerns itself with the relationship between reading performance and scores on a test of reflection/impulsivity. Subjects were 70 seven-year-olds in two British infant schools and 42 children identified as the poorest 10% of readers in the top infant year group of nine schools in the same city. The *Matching Familiar Figures Test* and the *Salford Sentence Reading Test* were administered individually to each pupil. Reading age (RA), time to response, and number of errors were intercorrelated. Correlation coefficients between RA and errors and time and errors were low to moderate and negative, coefficients between RA and time were very small but positive. A considerably larger proportion of poor readers than good readers were found to be impulsive. In both samples, there was a tendency for boys to be more impulsive and girls to be more reflective.

HERTEL, PAULA T.; COSDEN, MERITH; & JOHNSON, PEDER J. Passage recall: schema change and cognitive flexibility. *Journal of Educational Psychology*, April 1980, 72, 133-140.

Investigates the effects of subsequent related information and individual differences in cognitive flexibility on prose recall. Subjects were 70 undergraduate volunteers who received credit toward their course grade for participating. Two sessions were scheduled. In the first, subjects read a story with one of two endings. They were told that the second session was to ask them about their reactions to the story. At the end of the first session, subjects were fed one of two types of subsequent bias which was either consistent with or contradictory to information that had been read. The *Object Naming* test, the *Utility* test, and the *Match* test were also given to assess spontaneous flexibility and adaptive flexibility. At the second session, they were asked to answer ten questions, five of which had been designed to incorporate the information given subsequent to the reading. Subjects came for testing either two days or three weeks after the reading. Errors in cued recall reflecting the subsequent information were more frequent after the three-week delay

than after two days. Three-week subjects were more confident about correct recall than errors. The negative relationship between spontaneous flexibility and the positive relationship between adaptive flexibility and constructive error were interpreted in terms of storage and retrieval effects in memory.

HOLMAN, LINDA R.; SNOWMAN, JACK; & DEICHMANN, JOHN. The effect of stimulus presentation mode and cognitive style on sentence recognition memory. *The Journal of Educational Research*, March-April 1979, 72, 224-228.

Tests the contention that 20 reflective and 20 impulsive undergraduate subjects, as identified on the adult form of the *Matching Familiar Figures Test* will react differently to a sentence recognition task when presented orally by tape presentation or visually by slide presentation at five second intervals. After an interpolated break task, subjects were then asked to identify the previously presented sentences presented in recall test. Significant main effect differences were obtained for sentence form condition. Reflectives performed better on visual presentations and impulsives on the auditory. Significance also was reached in stimulus mode presentation; verb changes were more readily recognized on visual presentation.

ANNIS, LINDA F. Effect of cognitive style and learning passage organization on study technique effectiveness. *Journal of Educational Psychology*, October 1979, 71, 620-626.

Examines the effects on reading comprehension of cognitive style (field-dependent or field-independent) in conjunction with three other independent variables: 1) reading only or reading and taking notes on an 2) organized or disorganized passage 3) with review or without review. The dependent variables were free recall scores and low and high structural importance completion scores. Subjects were 129 midwestern university freshmen. Cognitive style was assessed with the *Group Embedded Figures Test*. Students scoring in the highest and lowest third were classified field-independent and field-dependent respectively. Field-independent students scored better than field-dependent students on completion items of high structural importance to the meaning of the entire learning passage. However, the effect of cognitive style on material of low structural importance was not significant. An analysis of notes taken by students in the low structural importance treatment condition indicated that notes taken on an organized learning passage were of higher average structural importance than notes taken on an unorganized learning passage. The results were discussed in terms of relations between cognitive style and study technique effectiveness research.

IV-19 Readability and legibility

WATTS, LYNNE, & NISBET, JOHN. *Legibility in children's books*. New York: Humanities Press, 1974.

Reviews research in the field of typography as it affects children's books. The authors came to three major conclusions: 1) Attitudes and motivation are more important than typographic factors in measures of legibility, 2) Publishers would be aided greatly by a knowledge of the research findings, and 3) Rules of legibility differ for beginning readers as compared with experienced readers.

VANDE KOPPLE, WILLIAM J. Readability of expository paragraphs with identical or related sentence topics. *Psychological Reports*, December 1979, 45, 947-952.

Uses subjective readability judgments of a total of 455 high school students reading paragraphs of identical content but varying the order presentation

of old and new information within the sentences. Significant results were found in favor of greater readability of paragraphs with identical or closely related sentence topics and in favor of those materials which followed the functional perspectivists' rule of introducing new information in the latter sentence portions. The author felt that the findings indicated that the relationship between sentence topics was an important factor in the readability of expository prose.

SMITH, SIDNEY L. Letter size and legibility. *Human Factors*, December 1979, 21, 661-670.

Designs a field study to determine adequate letter size for displayed letters. Using 88 student researchers in an engineering program, a total of 2,007 legibility measures for 314 printed display samples were obtained. There were 547 viewers. A mean letter height of 0.0019 rad (7 min) at the limit of legibility was found, with over 90% legibility at 0.003 rad and virtually 100% legibility at 0.007 radians. The general type of displayed material and viewing conditions appeared to make a difference in legibility. Display context, illumination, and viewing distance are all discussed in relation to their effect on legibility. Other cautionary comments relative to legible symbols are presented.

PITTMAN, BETTIE. Style of type and the reading comprehension of learning disabled and normal pupils. *Journal of Research and Development in Education*, 9, Monograph 1976, 114-115.

Tests for styles of type with learning disabled (LD) and normal pupils to see if any are less likely to cause reversals and more likely to affect reading comprehension positively. A five-paragraph story was printed in Primary, Script, Gothic, and Pica type and given to subjects. A ten-item sentence completion test followed the story. Normals learned at a higher level and at a faster pace than did LD subjects. Style of type was not found to be a significant variable in comprehension.

DUFFELMEYER, FREDERICK A. The effect of rewriting prose material on reading comprehension. *Reading World*, October 1979, 19, 1-11.

Investigates the effect of grammatically transforming seven prose passages upon the reading comprehension of 72 college developmental reading class students classified as good (13.5 and above), average (11.0 to 13.4), or poor (11.0 and below) according to grade equivalents obtained on the *Nelson-Denny Reading Test*, Form C. Seven passages of the comprehension section of the *Nelson-Denny Reading Test*, Form B, were transformed by substituting concrete nouns or full verbs for abstract nouns and verb-nominalizations to half of the subjects in each reading group. The alternate half read the original passages. Significantly better mean comprehension was obtained on the revised or less abstract passages for the poor readers but not for the average or better group readers.

STOVER, GEORGIA. Rewording arithmetic word problems for sixth and eighth graders to minimize reading difficulties. *Reading Improvement*, Spring 1980, 17, 26-35.

Investigates the reading and language variables that sixth and eighth grade students themselves feel contribute to arithmetic word problem solving difficulty. In this investigation, 35 mentally gifted sixth and eighth graders (*Stanford Binet* IQ scores = 132 and above) were asked to rewrite a random sample of typical math textbook word problems in order to make them easier. An analysis of the rewritten word problems revealed a list of 12 structural and reading changes made most frequently by the children in the study. An in-depth interview with each subject upon completion of the task provided a rationale for each change that was made. Allow-

ing pupils to rewrite textbook word problems in a free form style proved to be a valid technique in identifying a well-defined set of reading variables that contribute to arithmetic word problem solving difficulty.

GREENE, CHARLES E., & SZABO, MICHAEL. Effects of reduced reading level on achievement in ISCS. *Science Education*, January 1979, 63, 37-44.

Investigates the effects of using reduced reading level material on student achievement in the Intermediate Science Curriculum Study. Two treatment groups were compared, an original material group and a modified material group. Reduction in the readability levels of the modified material were obtained; average differences as measured by the *Fry Readability Formula* were 8.6 to 6.0, and on the *Golub Syntactic Density Score Formula* from 4.3 to 1.6. The subjects were 114 ninth-grade science students, divided into three reading-ability groups of high, moderate, and low achievement as measured by the *Gates-MacGinitie Reading Test*. Subjects completed the assignments within the 25-day limit. A criterion test designed to assess science achievement over the unit found significant differences between reading ability levels but not between the readability level treatment conditions.

QUERESHI, M. Y., & BUCHKOSKI, JEROME E. Logical versus empirical estimates of readability and human interest of general psychology textbooks. *Teaching of Psychology*, December 1979, 6, 202-205.

Compares the logical estimates of readability and human interest as determined by the Flesch readability and human interest formulas with the ratings of reading ease and human interest provided by judgments of 40 undergraduates. Subjects read selected paragraphs of 61 introductory psychology texts published between 1970 and 1977. Students rated the text paragraphs as being easier than did the Flesch scores, and they perceived the material approximately as interesting as the Flesch rating. Reported Pearson *r*'s between the students' and Flesch scores ranged from .34 to .43. Significant correlation coefficients were found between student readability and interest ratings (.78) and between the two Flesch measures (.517).

OSBORNE, DONALD L., & BARNES, MICHAEL. Reading levels of freshmen and sophomore students and the readability of their textbooks. *Reading Improvement*, Summer 1979, 16, 158-162.

Compares the *Nelson-Denny Reading Test* grade equivalents obtained upon a random sample of 52 college freshmen and 42 college sophomores with the Fry readability of 21 textbooks representing the general undergraduate curriculum. Mean Nelson-Denny grade equivalents reported were: Freshmen males = 11.96, females = 12.68; Sophomore males = 12.99, females = 13.08; Freshman range = 7.7 to 14.0; Sophomore range = 9.3 to 14.0. Readability levels of texts ran from tenth grade through college levels.

GORDON, ROBERT M. The readability of an unreadable text. *The English Journal*, March 1980, 69, 60-61.

Applies the Dale-Chall Readability Formula and the Fry Readability Graph to Plato's *Parmenides*. Readability was about 6.5 on the Dale-Chall and slightly higher on the Fry. An excerpt is presented to demonstrate the incomprehensibility of the text and to remind readers of the limitations of readability measures.

NYSTRAND, MARTIN. Using readability research to investigate writing. *Research in the Teaching of English*, October 1979, 13, 231-242.

Describes a pilot study to develop criterion tests of reading and writing and a methodology for assessing written products which evolved from it. Representative patterns of written constraints and textual distortion as revealed by cloze assessment are presented. An argument is made for the use of clozentropy in research on the development of writing and reading abilities.

HARBER, JEAN R. Syntactic complexity: a necessary ingredient in predicting readability. *Journal of Learning Disabilities*, August/September 1979, 12, 437-443.

Selectively reviews the literature and research pertinent to the assessment of readability. Identifies linguistic and empirical deficiencies in the nature of reading formulas, particularly the need to evaluate syntactic complexity, and makes suggestions for the development of new formulas and informal examination of material.

AFFLERBACH, PETER P.; ALLINGTON, RICHARD L.; & WALMSLEY, SEAN A. A basic vocabulary of U.S. federal social program applications and forms. *Journal of Reading*, January 1980, 23, 332-336.

Presents lists of words found on six U.S. Federal applications: Social Security, Supplemental Security Income, Public Assistance Food Stamps, Medicaid, and Medicare. Two lists are presented: the 76 most frequent words from all six forms found on the Dale/Chall list and the ten most frequent words on each form that are not found on the Dale/Chall list. It was found that there are many difficult words on the application: the 20 most frequently unlisted words had an average length of nine letters and three syllables. Also, there was little commonality across lists among the most frequently unlisted words. Several suggestions were made, including rewriting the applications in a simplified manner.

GILLIAM, BETTYE; PENS, SYLVIA C.; & MOUNTAIN, LEE. The Fry graph applied to Spanish readability. *The Reading Teacher*, January 1980, 33, 426-430.

Applies the Fry readability graph to 13 textbooks and nine juvenile books written in Spanish. Each book had been assigned a grade level by the publisher or was available in English so the grade level could be compared to the regular use of the Fry graph. The Fry graph was applied to the Spanish material exactly as if the book were in English. When the number of Spanish syllables was reduced by 67, most of the Spanish syllable counts were in the same bands as their English counterparts.

PATBERG, JUDYTHE P., & YONAS, ALBERT. The effects of the reader's skill and the difficulty of the text on the perceptual span in reading. *Journal of Experimental Psychology: Human Perception and Performance*. November 1978, 4, 545-552.

Investigates the development of perceptual span in reading. Subjects were 32 eighth grade poor readers, 32 eighth grade good readers, and 32 skilled adult readers. Poor readers had scored in the lower quartile (average was 14th percentile) of the *Gates-MacGinitie Reading Test*, Level E; good readers had scored in the upper quartile (average was 90th percentile). The adults were University of Minnesota graduate students. Four passages, two at the grade five-six level and two at the grade 11-12 difficulty, were prepared. Each passage was presented in two modes: normal and wide spacing (texts typed with 13 spaces between each word).

Comprehension was measured by 10 questions for each passage. Removing peripheral information by wide spacing improved comprehension for low-ability eighth graders but did not affect their overall reading efficiency (the number of questions answered correctly per minute of reading time). Wide spacing decreased the reading efficiency of high-ability eighth-grade readers and skilled adult readers. The wide spacing of words did not produce greater decrement of reading efficiency with the easy text. The authors thus suggested that perceptual span may increase as reading skill develops but does not change under the influence of momentary task variables.

TOMAS, DOUGLAS A. Don't cloze students out of literary selections. *Epistle*, Fall 1978, 5, 19-25.

Evaluates the validity of cloze as a method of measuring comprehension of literary discourse (stories). Argues that the validity of cloze has been tested only on basal and content materials, not literature, and that the form of the discourse read may have implications for the interpretation of cloze performance. An experiment was conducted with 34 graduate education students. Subjects read three short stories (by Hemmingway, Joyce, and Faulkner) with Flesch readabilities between fifth and seventh grade. Cloze tests were prepared by counting 50 words and then deleting the first noun, verb, adjective or adverb. Subjects' performance on the three stories was compared to Rankin's and Culhane's criteria for independent, instructional and frustration levels. The mean cloze score for two of the stories was below the criterion for independent level, leading the author to question the validity of cloze tests for establishing levels of reading comprehension of literary selections.

MCKENNA, MICHAEL C., & ROBINSON, RICHARD D. *An introduction to the cloze procedure: an annotated bibliography*. Newark, Delaware: International Reading Association, 1980 Revision.

Annotates research on the cloze procedure under the following nine areas: Background References, Reviews, Comprehension and Readability, Statistical and Constructional Issues, and Psychology of Cloze Contextual Phenomena, Cloze as a Teaching Device, Foreign Language Applications, and Cloze and Maze.

ALDERSON, J. CHARLES. The effect of the cloze test of changes in deletion frequency. *Journal of Research in Reading*, September 1979, 2, 108-119.

Reports on a study of the influence of varied deletion frequency and differing scoring procedures upon the cloze scores of 360 native English secondary pupils aged 15-16, and 360 non-native speakers of English, aged 18 and older. Deletion was varied to include every sixth, eighth, tenth, and twelfth word removed from three cloze tests of fictional texts representing three distinct levels of readability as ascertained by three reading formulas and pooled judgements of 19 reading teachers. Scoring criteria procedures for acceptable words included: exact, semantically acceptable, grammatically correct, same form-class, and acceptable form class. The resulting scores varied in unpredictable ways. Significant differences among the cloze tests resulted; some for scoring technique, some for difficulty level, and some between subjects. In general, cloze items were little affected by context greater than five words.

MCDORMAN, MARY BEN. Directionality of print and learning disabled and normal pupils' ability to sequence sentences, comprehend sentences, and recognize relationships. *Journal of Research and Development in Education*, 9, Monograph 1976, 22-25.

Examines the effects of varying the direction of print on learning disabled (LD) and normal (N) students' ability to sequence, comprehend and recognize relations among sentences. Four treatment conditions of the print variable were presented: traditional horizontal left to right (T1); horizontal right to left (T2); vertical, beginning at the top left hand side of the page and going down with each word of the sentence in columnar form (T3); and vertical, beginning at the bottom of the page and reading up with each word of the sentence in columnar form (T4). The task consisted of a study-test procedure over four trials. Tests assessed sequencing, comprehension, and grasping relationships of 12 sentences, six of low complexity and six of high complexity. Vertical top to bottom direction was less effective for recognizing relationships while the other print directions were similarly effective. LD and N students responded in a similar manner on the three tests to the ways in which the material was presented.

GRUNDIN, HANS U. Further steps toward a theory of comprehension and 'rauding'. *Instructional Science*, February 1980, 9, 15-41.

Analyzes the concept of rauding and concentrates on some of the fundamental issues involved. Constructive suggestions for developing and improving the concept are presented. The author presents a new theoretical equation which both fits the empirical data presented on rauding and also gives more plausible results when predicting levels of comprehension following several re-readings when comprehension after the first reading is low.

IV-20 Studies on the reading process

APPLEBEE, ARTHUR N. *The child's concept of story: ages two to seventeen*. Chicago: The University of Chicago Press, 1978. 209 pp.

Integrates a selective treatment of theory with a report of language usage and conceptual development as represented in storytelling patterns and responses to literature among disparate populations of preschoolers, elementary school children, and adolescents. The original descriptions and technical treatment of the empirical data utilized as the basis for this description of theory and performance were published earlier. A framework for analysis is constructed which draws upon concepts of Bruner, Piaget, Kelly, Langer, and others. Data from repertory grids were used to analyze the emergence of differentiation, fantasy, and distancing in 360 stories told by children two through five years of age and in interviews with school age samples drawn from London, England, schools. Ages and sample sizes of the latter were: six (N = 44), thirteen (N = 60) and seventeen (N = 40). Concludes by proposing a model of the developmental stages in literary response and draws attention to the relevance of these findings to Piaget's stages of cognitive development.

KINTSCH, WALTER, & VAN DIJK, TEUN A. Toward a model of text comprehension and production. *Psychological Review*, September 1978, 85, 363-394.

Undertakes a detailed description of the mental operations which serve as a basis for text comprehension and the production of recall and summarization protocols. A semantic processing model is presented which specifies three sets of operations: coherent organization of whole meaning, condensation into gist of the text, and the generation of new texts from comprehension and memory. Particular emphasis is placed upon the significance of macrolevel semantic structure. Illustrates the analysis of experimental protocols from the summaries and immediate and delayed recalls of 87 university undergraduates reading the text of an article. Results are described with comments about limitations and needed directions for the model.

BROOKS, GREG. The need for a historical dimension in research on reading. *Journal of Research in Reading*, February 1980, 3, 60-66.

Employs selective reviews of research on verbal reaction time, suppression of effects, and phonological coding in silent reading as support for the construct that speculation and evidence on key reading processes started much earlier than currently assumed by many researchers and that main lines of discussion largely were in place by 1869. The author argues that the modern researchers need to pay greater attention to the depth and detail of historical background to their work in order to avoid unnecessary duplication and to permit a more coherent development of theory.

SHIMRON, JOSEPH. Psychological processes behind the comprehension of a poetic text. *Instructional Science*, February 1980, 9, 43-66.

Analyzes the psychological processes involved in reading poetic texts using an earlier suggested model. The responses of six university students to a short poem were analyzed. In the first reading, subjects responded to each line presented individually and then to a second reading of the total poem. In the very early stages of processing, readers attempted to identify the major theme of the poem. Additional information supplied in later lines was tested in the light of the hypotheses subjects made regarding the major themes. The author states that the reading of poetry is possibly qualitatively different from the reading of nonpoetic texts. The poetry reader was felt to be characterized by a tendency to process a maximum of information from memory schemas that are evoked during reading and also by a readiness to process pieces of information whose meanings would not be considered consistent if taken literally.

KAVALE, KENNETH, & SCHREINER, ROBERT. The reading processes of above average and average readers: a comparison of the use of reasoning strategies in responding to standardized comprehension measures. *Reading Research Quarterly*, 1979-1980, 15(1), 102-128.

Identifies and compares the reasoning strategies used by average and above-average readers as they responded to standardized measures of reading comprehension. Sixteen grade six pupils were selected for inclusion in the study on the basis of scores on the *Gates-MacGinitie Reading Test*, Level D. In addition, final selection was based upon the classroom teacher's judgment of children's verbal ability. Subjects were asked to read passages and then to respond to four different question types of giving the reasons for accepting or rejecting each of the multiple-choice alternatives. The four question types represented verbal reasoning (VR), determining cause and effect (CE), reading for inference (I), and selecting the main idea (MI). Protocols were then classified into a pre-existing scheme. Only the response to the correct answer was considered in the analysis. For both average and above-average readers most responses were related to information found within the questions presented. Over half of the responses for the total group were also found to be related to information provided in the stimulus passage (discourse dependent). Above average readers showed a higher percentage of discourse dependent responses (60%) than did average readers (47%). Significant differences were noted between the two groups in the magnitude and variety of reasoning strategies used. Average readers showed greater variability in strategy use and more applications of less efficient reasoning strategies than did above average readers. By contrast, better readers showed more applications and successes with the most often used strategies and the preferred strategies for question types.

DEHN, MECHTHILD. Children's strategies in learning to read and write: an examination of the learning process. *The Reading Teacher*, December 1979, 33, 270-277.

Observes the growth in reading and writing of nine German first graders. Nine university students questioned and observed one first grader one hour per day for nine days between September, 1977, and February, 1978. Five variables were observed: 1) oral reading ability on easy and difficult material, 2) writing, 3) ability to tell a narrative story, 4) ability to orient oneself in new rule formation areas (in strategy games), and 5) problem understanding. The children were chosen from three sociologically different first grades on the basis of the *Reutlinger School Readiness Test*, controlling for equal sex representation. All children were taught by the method-integrating system. The *Beltz School Achievement Test Battery* was administered in March, 1978; and in June, tests of oral reading and spelling were given. The author observed: 1) that children learn to read and write in different ways, even when taught by the same method; 2) that during instruction there is not only a reduction of the specific processes used, but also a change in emphasis; 3) that children who at first tended to learn by whole words and failed to learn the connection between letters and meaning showed a marked decrease in their achievement by the end of the year and 4) that progress in learning to read is facilitated when children understand the task and can use abilities that they think important.

JUEL, CONNIE. Comparison of word identification strategies with varying context, word type, and reader skill. *Reading Research Quarterly*, 1980, 15(3), 358-376.

Attempts to determine if the reading of second and third graders is predominantly a text-driven, bottom-up process, or if it is a concept-driven, top-down process. Forty words were selected that represented all possible combinations of experimental word factors: easy/hard decodable words, one/two syllable words, and high/low frequency words. Each word was written in two sentences, one giving low context and one giving high context. All subjects read orally all 40 words in isolation, and 20 of the words in a low context sentence and the other 20 words in a high context sentence. Errors were recorded. Aid was given on non-target words. Subjects were 36 boys and 36 girls with IQ scores between 96-120 on the *California Test of Mental Maturity*. On the basis of reading group, scores on the *California Achievement Test*, and scores on a graded word list, children were classified as good, average, or poor readers. The results suggested that as readers become more skilled, they read in a predominantly text-driven fashion. Good readers use context, but usually only on words where the internal word characteristics offer minimal identification cues (e.g., low frequency, hard, decodable words). The author argues that because good readers can use context better than poor readers does not necessarily mean they do so in normal reading.

TIERNEY, ROBERT J., & BRIDGE, CONNIE A. The functions of inferences: an extended examination of discourse comprehension. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 129-133.

Analyzes the discourse processing operations of 18 third grade children reading and retelling recall of a narrative passage. Each retelling of a passage was evaluated for five categories of inference: extension, connection, generalization, deletion, and integration. Results suggested that the ability to integrate propositions differentiates control of inference processes between good and poor readers. All readers employed some degree of the five inferencing processes. No significant

differences were found between good and poor readers on use of connection, generalization, and extension. Poor readers deleted significantly more propositions from the text in their recall.

GROVER, SONJA. The application of prior knowledge to the interpretation of text. *The Journal of General Psychology*, October 1979, 101, 271-278.

Describes the conditions and results of an experiment in which 78 college subjects were randomly assigned to one of three conditions (no precue, syntactic precue, or semantic precue) when tachistoscopically tested for recognizing words presented in visually confusing arrays. Semantically precued subjects performed significantly better than the other groups in both accuracy and efficiency of recognition.

BISANZ, GAY L.; LAPORTE, RONALD E.; VESONDER, GREGG T.; & VOSS, JAMES F. On the representation of prose: new dimensions. *Journal of Verbal Learning and Verbal Behavior*, June 1978, 17, 337-357.

Examines one aspect of story structure, the relation of theme or themes to the characters of a story. Theme was defined as a concept or idea that relates or unifies large chunks of story information. Two experiments were conducted, both using undergraduates (N = 40 and 24). In the first experiment, subjects made similarity judgments on a set of animal concepts both before and after reading two specially constructed stories in which these animals were characters. Judgments were submitted to a multidimensional scaling (MDS) procedure. The results indicated that: a) the location of story characters in multidimensional space described the readers' representation of the thematic structure relating the characters of each story; b) each story context acted to specify the particular set of conceptual relations that constituted the themes of that story; c) the methodology employed allowed for empirical consideration of author-reader communication. Some possible limitations in such communication were suggested. In a second experiment, Same-Different reaction time judgments on the characters of one of the stories were shown to be related to specific concept distances derived from the previously obtained MDS solution of the story. A spatial model and a parallel feature analysis model of the decision process were developed and parameters were estimated.

DENHIERE, GUY, & LE NY, JEAN-FRANCOIS. Relative importance of meaningful units in comprehension and recall of narratives by children and adults. *Poetics*, June 1980, 9, 147-161.

Investigates how subjects of different ages attribute relative importance to meaningful units of a narrative and compares these with free-recall reports of the same narrative. The narratives for this experiment were two 22-sentence stories with 55 propositions which could be assessed according to the main structural categories of an existing text-grammar: exposition, initial situation, complication, resolution, and evaluation. There are three groups of subjects: 40 eight-year-old children, 40 eleven-year-old children and 24 adults. Subjects were instructed to read the story and then to select the eight most and eight least important sentences. The mean number of sentences chosen as most and least important by more than 36% of the subjects ranged from 9.3 to 10.5 for the three age groups; there were no significant differences. The mean number of sentences chosen by 36% to 49% of the subjects ranged from 4.8 for eight-year-olds to 6.8 for eleven-year-olds and adults. Eight-year-olds did differ significantly from the others. The correlation coefficients of choices for adults and eleven-year-olds were high (.86 for most important, .81 for least). The other coefficients were significant but not as high (.49 and .47 for adults and eight-year-olds and .66 and .46 for eight- and eleven-

year-olds). These ratings were then correlated with the free-recall reports (immediate and one-week delay) of three groups of other children ages 7, 8-6 and 11. The correlation coefficients between the younger judgment subjects and all recall subjects were low. But the coefficients between the responses of the eleven-year-olds and adult judgment subjects and all recall subjects (both immediate and delayed) were statistically significant and quite high (.50 to .75). It was concluded that a significant change occurs in the processing of narratives at about the age of seven to eight.

HABERLANDT, KARL. Story grammar and reading time of story constituents. *Poetics*, June 1980, 9, 99-118.

Investigates the episodic boundary hypothesis which predicts that the load of encoding an episode in a story should be highest at or near the boundaries of the episode (beginning, end), because at the beginning new memory locations must be initialized, and, at the end, the reader must organize the information and transfer it from working memory to long-term memory. Two experiments were conducted. In the first, two sets of five stories were constructed, each story containing two well-formed episodes of six nodes (beginning, reaction, goal, attempt, outcome and ending). There were also 11 buffer stories. Seventeen judges rated the importance of each node. Thirty-six readers (no other information reported) read the stories on a video terminal, one sentence at a time. Both reading time (RT) and recall were dependent variables. In Experiment 2, 12 two-episode stories were constructed; half were presented as good stories in which the six nodes were in the correct order, and half were presented as poor stories in which the order of the nodes was altered (outcome was second instead of fifth). These stories were read by 64 subjects, using the same procedures as Experiment 1. RTs were higher at the boundary nodes. Recall scores were highest for beginning, attempt and outcome nodes, as were RTs relative to recall. The author concluded that these data support the validity of the episodic boundary hypothesis.

VAN DIJK, TEUN A. *Test and context: explorations in the semantics and pragmatics of discourse*. New York: Longman, 1977. 261 p.

Provides a theoretical introduction to the study of text grammars as well as summarizing, elaborating, and modifying the author's earlier investigations reported. The book focuses attention upon little treated topics pertinent to the formal linguistic study of text and context; i.e., connection, coherence, topic of discourse, macro-structures, relations between the semantics and pragmatics of discourse, and the theory of action as it influences discourse and interpretation. Although the presentation is largely informal, some elementary knowledge of modern linguistics and speech and set theory is presumed.

MEYER, BONNIE J. F. Organizational patterns in prose and their use in reading. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 109-117.

Critically summarizes the author's own research and that of selected other investigators dealing with reader ability to utilize text organization, particularly the use of top-level text structure. The research reviewed provides insights into the cognitive processes involved in reading comprehension and supports comprehension models incorporating schema theory.

THOMSON, JACK. Response to reading: the process as described by one fourteen-year-old. *English in Education*, Autumn 1979, 13, 1-11.

Presents the transcript of an interview with one 14-year-old student from New South Wales. The student was described as very perceptive and a voracious reader. This interview is one of 18 interviews so far conducted. The interview questions draw heavily on an earlier published analysis of the processes involved in reading of fiction and a re-organization of the previously published categories into levels of response. In light of the interview, comments about processes were given. Practices that schools ought to do and ought not to do in terms of reading assignments were also reported.

ISAKSON, RICHARD L. Cognitive processing in sentence comprehension. *The Journal of Educational Research*. January-February 1979, 72, 160-165.

Explores the possibility that sentence processing is initiated at points within a sentence where the reader is able to identify the structure of the sentence being read. Thirty-six college undergraduates were presented with 24 sentences each of two sentence types, one word at a time. A click was heard at a point in the sentence either where structure could be identified or where it could not yet be determined and subjects were to respond to the click. The mean response time to clicks occurring in sentences where structure could be identified was significantly higher than at the same point in sentences where it could not be identified. Thus, some form of processing appears to be initiated before the reader reaches the end of a clause or sentence. That point appears to occur where structure can be assigned.

LORCH, ROBERT F., JR. The role of two types of semantic information in the processing of false sentences. *Journal of Verbal Learning and Verbal Behavior*, October 1978, 17, 523-537.

Reexamines the role of property and subordinate/superordinate information in the processing of two types of false sentences. Four experiments were reported, all using undergraduate students as subjects. Subjects were shown sentences of the form "All A are B" and were to determine whether they were true or false as quickly as possible. The more properties the subject- and predicate-concept of the sentence shared, the longer it took subjects to respond. The more accessible the subordinate/superordinate relationship between the subject and predicate, the quicker subjects responded. The author concluded from his findings that both property and subordinate/superordinate information are prestored in memory and are retrieved simultaneously.

FINN, PATRICK J. Word frequency, information theory, and cloze performance: a transfer feature theory of processing in reading. *Reading Research Quarterly*, 1977-1978, 13(4), 508-537.

Reanalyzes data on 5,185 words in a 1966 cloze study for each of the following variables: 1) cloze easiness (CE), 2) standard frequency index (SFI), 3) test frequency (TF), 4) passage difficulty (PD), 5) token position (TP), and 6) type number (TN). The variables were correlated with each other, and a multiple regression analysis was performed using cloze easiness as the dependent variable. SFI was the best predictor of CE. The multiple correlation coefficient between SFI, PD, and TF and CE was .696. The data are shown to be supportive of a theory which is then examined in light of three current models of reading.

CLARK, HERBERT H., & SENGUL, C. J. In search of referents for nouns and pronouns. *Memory and Cognition*, January 1979, 7, 35-41.

Investigates the process readers use to search their memory for information provided in earlier sentences when that information is the referent of a noun phrase or pronoun in a later sentence. Three experiments were conducted, each with a different group of 24 paid undergraduates serving as subjects. In all three

experiments, subjects read the context sentences, and then the target (test) sentence on a modified Iconix tachistoscope. The measured variable was reading time, the time between the initial exposure of the target sentence and the subjects pressing a button to indicate the sentence was understood. In Experiment 1, the referent of a noun phrase or pronoun in the fourth sentence of a four sentence complete paragraph was placed in either the first, second or third sentence. Less time was needed to comprehend sentences with the referent one sentence back (the third sentence) than two or three sentences back. To determine if it was sentence or clause boundaries that caused this differentiation, Experiments 2 and 3 were conducted. In Experiment 2, only two sentences preceded the target sentence, the two sentences containing three clauses. The referent was always in the middle clause. This middle clause was either a subordinate or major clause of the first sentence or the second sentence. No reliable differences in reading time between the four referent placements were found. These findings suggested that it was the last major clause, not the last sentence that facilitated memory of referents. Therefore, Experiment 3 was conducted. Here, the referent was always in the last sentence, but it was either a main or a subordinate clause presented as the first or last clause. The referent was easier to retrieve in the last clause, and it did not matter whether it was a subordinate or main clause. It was concluded that the last clause processed is the most prominent in working memory and most readily available as a noun phrase or pronoun referent.

CHAMBERS, SUSAN M. Letter and order information in lexical access. *Journal of Verbal Learning and Verbal Behavior*, April 1979, 18, 225-241.

Examines the searching process that readers use to access their lexicon, or knowledge about a word, after seeing that word in print. The author theorizes that each person stores information (e.g., pronunciation, meaning) about individual words in lexicon, and that upon seeing a word, must be able to access that word in order to identify and use the word. Various access codes (visual, phonemic, syllabic) are discussed. Three studies are conducted to examine the roles of single letters at certain serial positions (beginning, middle and end of words) and the order of letters at these serial positions as possible codes used to access the lexicon. The items were words that differed from each other by frequency and by one letter at one of the three serial positions (e.g., "dollar" - "collar," "pilot" - "pivot," "queen" - "queer"); or non-words that differed from real words by one letter at each serial position (e.g., "lotor" for "motor") or by transposed letters ("omtor" for "motor"). It was hypothesized that differences between words (real or non-real) at the middle serial position would interfere with access to a greater degree than differences at other positions. The subjects were paid university students, 15 or 20 different subjects per experiment. The task was to identify the stimuli as a real or non-real word. Reaction time and percentage correct were the measured variables. Regardless of serial position, single letter differences between real word stimuli or non-real word stimuli did not result in interference. Transposed letters did result in interference. With unlimited viewing time, it appears that all the letters of a word are part of the lexical access code, and that order information about adjacent letters is not. The results are interpreted in view of several other theories of accessing the lexicon.

DREWNOWSKI, ADAM, & HEALY, ALICE F. Detection errors on *the* and *and*: evidence for reading units larger than the word. *Memory and Cognition*, November 1977, 5, 636-647.

Presents results of five experiments in which subjects read 100-word passages and circled instances of a given target letter, letter group, or word. Subjects were medical school students, undergraduates, and young adults recruited by newspaper advertisements. Each experiment had 24 to 137 subjects. In each case

subjects made a disproportionate number of detection errors on the common function words "the" and "and." The predominance of errors on these two words was reduced for passages in which the words were placed in an inappropriate syntactic context and for passages in which word-group identification was disturbed by the use of mixed typecases or a list, rather than a paragraph, format. These effects for the word "and" were not found for the control word "ant." The results were taken as evidence that familiar word sequences may be read in units larger than the word, probably short syntactic phrases or word frames. A tentative model of the reading process consistent with these results is proposed.

DREWNOWSKI, ADAM. Detection errors on the word *the*: evidence for the acquisition of reading levels. *Memory and Cognition*, July 1978, 6, 403-409.

Theorizes that there are developmental stages in the acquisition of reading processing skills (from the use of graphological features to the use of orthographic and spelling regularities and phonological features of word to the use of syntactic and semantic properties of words and word groups), and that these stages can be detected by performance on letter search tasks in verbal materials varying in format. Specifically, an experiment was designed to test subjects' ability to detect the letter "t" in verbal material containing several instances of the word "the." One 25 word passage was constructed and presented to subjects in 4 formats: 1) as a regular paragraph, 2) with the words of the passage presented in paragraph style but in scrambled order, 3) with the letters of the passage scrambled into pseudo-words of controlled length and 4) as a randomly ordered list. Each format was typed on a separate sheet of paper and randomly collated into a booklet. Manhattan public school children in grades one through five served as subjects: 44 to 53 per grade. Also included were 47 young adults. Good and poor readers within each grade were identified by the *Stanford Early Achievement Test* or the test used in the New York City Testing Program. It was hypothesized that older students and better readers would utilize higher level reading processes (3 and 4) and would make more errors (fail to detect a "t") on "the" than on other words. Younger students and poorer readers were hypothesized to utilize lower level processes (1 and 2) and, therefore, would make no more errors on "the" than on other words. These hypotheses were confirmed. The results are discussed in terms of a multi-level model of reading.

MCMURRAY, MARY; MORGAN, RAY; & LAFFEY, JAMES. College students' word identification strategies. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 76-81.

Describes the nature and results of an interview study of 30 good and 30 poor college level readers concerning their self-perceptions of how they decoded and comprehended words. Good readers were defined as reading two years above grade norms, and poor readers as two years below grade norms on the *Nelson-Denny Reading Test*. Tabulated results are presented. Findings suggested that college readers word focus is upon meaning rather than pronunciation, that some difference exists between self-perception of word strategies and actual strategies, and that both good and poor readers actually made greater use of contextual and structural strategies than of other specific word attack strategies.

WALMSLEY, SEAN A., & MOSENTHAL, PETER. Truth meaning versus referential meaning in adults' reading comprehension. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 134-139.

Determines how given empirical, analytical, and value statements are verified by adults. Twenty-seven graduate students were presented with nine statements, three of each type. They were asked 1) to give the most sensible and appropriate method of proving the statements to be true, and 2) under what conditions they would want to develop other ways of proving the statement to be true. Subjects had 45 minutes to complete the task. When asked to give the most sensible and appropriate method of verification, 91.4% of empirical statements were verified empirically and 1.2% analytically; 75.3% of value statements were verified evaluatively and 23.5%, empirically; 50.6% of analytical statements were verified empirically, 46.9%, analytically, and 1.2% evaluatively. When asked to tell other ways of verifying the statement, subjects gave similar responses for empirical and value statements, but the number of no responses increased markedly. In this condition, analytical statements were more frequently verified analytically (48.1%) than empirically (34.6%), and the number of no responses was significantly higher.

FRENCH, PATRICE L. Linguistic marking strategy, and affect in syllogistic reasoning. *Journal of Psycholinguistic Research*, September, 1979, 8, 425-449.

Tests subjects on a series of eight logical three-term-series problems with unmarked comparatives (e.g., taller, higher) and their marked opposites (e.g., shorter, lower). The 42 undergraduates received each of the eight logical types with each of three test questions (e.g., Most? Middle? Fewest?) to be worked in three different contexts. After working the problems, subjects were asked to retrospect on the reasoning process they went through. Data are discussed in terms of various theories predicting the results.

ORMROD, JEANNE E. Cognitive processes in the solution of three-term series problems. *American Journal of Psychology*, June 1979, 92, 235-255.

Studies the strategies used in solving three-term series syllogisms. Subjects were 144 undergraduate students who received points toward their course grade for participating. The three-term series problems were constructed such that they were either high both in the spatiality of the comparative dimensions and in the imagability of the three terms (high - S/I) or low in both characteristics (low S/I). Three presentation modes (auditory, visual/sequential, and visual/simultaneous) were crossed with two question positions: before-premises and after-premises. Subjects were assigned to treatment groups at random and both answered each of the 40 problems and also rated each for difficulty on a seven-point scale. Subjects were also asked to write an introspective report on how they had solved the problems. High S/I-problems proved easier than low S/I-problems. Both problem response data and subjective reports supported the thesis that the auditory-after and visual/sequential-after groups would be more likely to employ a spatial/image strategy than would the visual/simultaneous-after group. Subjects in the visual/sequential method benefited the most from having the question placed before the premises rather than after them. No significant differences were found for question position in the auditory presentation mode. Question-before groups appeared to benefit from the spatiality/imagability as much as did the question-after groups. Response data and subject reports indicated the use of different problem-solving strategies under different presentation conditions, and additionally suggested that the use of different strategies were due, in part, to storage demands, to input/processing interference, and to mathemagenic behaviors.

BESNER, DEREK, & COLTHEART, MAX. Ideographic and alphabetic processing in skilled reading of English. *Neuropsychologia*, 1979, 17(5), 467-472.

Compares the reading of numbers represented as Arabic numerals to the reading of numbers printed alphabetically to note differences in the processes

skilled readers use as they read the two. In the first of two experiments reported, 26 undergraduates were shown simultaneous pairs of Arabic numerals varying both in numerical magnitude and in physical size and asked to decide which was numerically larger. In the second experiment, the numbers were presented alphabetically, and 16 undergraduates were asked to perform the same task. Three conditions were presented in the first experiment: 1) the numerically larger numeral was also physically larger - Congruence; 2) the two numerals were the same physical size - Same Size; and 3) the numerically larger numeral was physically smaller - Incongruent. Only the Congruent and Incongruent conditions were presented in the second experiment. For the first experiment, the Incongruent condition yielded slower reaction times than the Same Size condition which in turn yielded slower reaction times than the Congruent conditions. In the alphabetic presentation, the mean reaction time was the same for both conditions and error rates did not differ significantly. Thus, judgments are influenced by physical size when the numbers appear as Arabic numerals, but not when they appear in alphabetic script. The authors interpret their findings as indicating that different mechanisms are used in processing the two numeral forms.

SHANON, BENNY, & BALZANO, GERALD J. Identification and classification of characters in two alphabets. *Journal of Psycholinguistic Research*, May 1980, 9, 261-274.

Presents 12 bilingual college subjects with pairs of letters drawn from either the English or the Hebrew alphabet or both. Subjects were to tell whether the two letters belonged to the same alphabet or whether the two letters represented the same sound. Only five letters in each alphabet were used because they met specified criteria. Reaction time in the alphabet task was not affected by the sound relationship of the characters compared. No significant differences were found for reaction times between the sound task and the alphabet task. Same-alphabet pairs were not necessarily processed faster than mixed pairs; alphabet decisions were not faster overall than sound decisions. Reaction times associated with native language pairs were shorter than those for second language pairs. The data are discussed in terms of two models of the processing of printed characters, neither of which is supported.

MARCEL, TONY. Unconscious reading. *Visible Language*, Autumn 1978, 12, 391-404.

Summarizes a number of experiments the author had conducted which examine a form of subliminal perception. In the first experiment reviewed, subjects were shown a word which was then masked. Then they were given three tasks: 1) state if they saw a word or not, 2) choose from two words, the word that was graphically more similar and 3) choose from another two words, the word that was semantically more similar. Exposure time of the stimulus was continually reduced until subjects reported they could not see a word. Subjects still performed above a chance level on tasks 2 and 3, however. When exposure time was reduced further, they reached chance performance on task 2, but still responded correctly above a chance level to task 3. The author continued with a review of a second experiment in which subjects were shown word or pseudo-word pairs varying in degree of association. It was known that the meaning of the first word in a pair facilitates the rate of recognition of the second word. Even when subjects did not realize that the first word had been exposed (because of the short duration of the exposure and masking), they still identified high associated words faster than low associated

words. The author argues that these results indicate that there is a distinction between the availability of a word to consciousness or as a vocal response and its having been read in the sense of lexical and semantic identification.

GLOVER, JOHN A.; ZIMMER, JOHN W.; & BRUNING, ROGER H. Information processing approaches among creative students. *The Journal of Psychology*, May 1980, 105, 93-97.

Investigates information processing by 84 creative and non-creative undergraduate students. Creativity was determined by the Unusual Uses subtest of the *Torrance Thinking Creatively With Word Test-Verbal Form B*. Total score median on the Unusual Uses subtest was used to determine creative and noncreative categories. All students took the *Nelson-Denny Reading Test*, read an 1,800 word essay on a complex astronomy topic, and completed a 24 item multiple-choice test covering the content. Subjects also wrote two 50-word essays: one, a summary of critical information in the text; and the other, a "flight of fancy" based on their perception of the passage. Essays were evaluated and scored on the number of: 1) theme sentences; 2) supporting sentences; 3) independent sentences; 4) logical intrusions and 5) illogical intrusions. No differences between creative and non-creative students were found on the Nelson-Denny or the multiple-choice test. Creative students did show significantly more logical intrusions and fewer incorrect intrusions than non-creative students. The authors concluded that there are qualitative differences in the information processing approaches of creative and non-creative students.

O'REGAN, KEVIN. Saccade size control in reading: evidence for the linguistic control hypothesis. *Perception & Psychophysics*, June 1979, 25, 501-509.

Examines the effects of certain linguistic factors and word length on saccadic eye movements during reading. Subjects of Experiment 1 were 40 paid American or English tourists in Paris, mostly students. For Experiment 2, subjects were seven California college students. The stimuli of Experiment 1 were sentences of the structure: THE + noun + verb + THE + prepositional phrase. In each verb and noun position was put either a short (three letter) or long (10-14 letter) word. Eight combination of sentences were constructed. Stimuli were presented on a screen controlled by a PDP-12 computer. The computer also measured eye position every 20 msec. In Experiment 2, stimuli were sentences with two possible endings: the + other words or a three letter verb + other words. The procedures were essentially the same as those in Experiment 1. The eyes made longer saccades near long words than near short words. This effect was reduced when peripheral vision was diminished. The eyes tended to make longer jumps when approaching "THE" then when approaching a verb. This "THE" skipping was reduced when "THE" is compared with auxiliary verbs instead of low frequency verbs. It was concluded that knowledge of the lexicon can combine with information from peripheral vision quickly enough to control saccade size.

MCCONKIE, GEORGE W.; HOGABOAM, THOMAS W.; WOLVERTON, GARY S.; ZOLA, DAVID; & LUCAS, PETER A. Toward the use of eye movements in the study of language processing. *Discourse Processes*, July/September 1979, 2, 157-177.

Discusses three problems in using eye-movement data for studying the processing of language data: perceptual span, data summary, and the eye-mind lag. Reviews some research on perception during reading and presents an approach for the proper use of eye movement data in language processing studies.

V. The teaching of reading.

V-1 Comparative studies.

AHMANN, J. STANLEY. Differential changes in levels of achievement for students in three age groups. *Educational Studies*, Spring 1979, 10, 35-51.

Reports and analyzes changes in levels of achievement in the National Assessment of Educational Progress since its inception in the early '70's. Presents substantial comparative achievement data for the nine, thirteen, and seventeen chronological age groups for the '60-'70, '72-'73, and '76-'77 assessment years in the major assessed learning areas of reading, science, writing, and political knowledge. Analyses of change are included for specific pupil characteristics such as sex, race, community type, geographical region and for subclassifications of achievement within the major areas.

ELLIGETT, JANE, & TOCCO, THOMAS S. Reading achievement in 1979 vs. achievement in the fifties. *Phi Delta Kappan*, June 1980, 61, 698-699.

Administers both a current edition and a 1950's edition of three standardized tests to 18 classrooms of sixth graders and compares the scores with the norms on each test. Subjects were given the 1978 and 1955 versions of the *Iowa Tests of Basic Skills*, the 1978 and 1958 versions of the *Metropolitan Achievement Tests*, and the 1978 and 1955 editions of the *Science Research Associates Achievement Series*. Current grade six pupils scored five to ten months lower than the 1950 norms would indicate a sixth grader should score. When results were compared for different achievement groups, it was found that today's median student in the below average group was scoring as well as a 1950's pupil rated at the same or higher grade level. However, the above average pupil's median score was lower than his/her counterpart of the 1950's.

EURICH, ALVIN C. Student readers: the 50-year difference. *Change*, April 1980, 12, 13-15.

Compares 1928 scores in reading and comprehension on the University of Minnesota Reading and Speed of Reading examinations with scores on the same tests administered in 1978. The *Minnesota Reading Examination* consists of a 100-item vocabulary test and a reading comprehension section. The *Minnesota Speed of Reading Test* includes 38 paragraphs with a reading time allotment of six minutes. In 1928, the tests were given to 1,313 college freshmen and the vocabulary and reading tests were given to 4,191 high school seniors. The 1978 sample consisted of 865 college freshmen. Only college freshmen were compared on reading rate in the two samples. For vocabulary and comprehension, all test scores from both years were compared. On vocabulary, the mean score for the 1978 sample was 29, and the mean score for the 1928 sample, 35. The difference was significant. Similar differences were found for the other vocabulary comparisons. In reading comprehension, the 1978 freshmen mean score of 13 was significantly lower than the 1928 freshmen mean score of 15. High school seniors in 1928 scored midway between the two freshmen groups. Rate scores also showed a decline in 1978 from those in 1928.

COPPERMAN, PAUL. The decline of literacy. *Journal of Communication*, Winter 1980, 30, 113-122.

Posits a decline in academic achievement scores since the 1960's. Data from Scholastic Aptitude Test scores and the American College Testing Program were analyzed. In addition, the author reviewed findings from other studies and concluded that there has been a decline in both the quantity and quality of instruction children receive in public schools.

HILLERICH, ROBERT L. Reading: how are we doing? *Ohio Reading Teacher*, October 1977, 12, 5-7.

Cites selected studies dealing with the comparison of reading achievement over time. The author contended that most of the research supported the conclusion that children are reading better today than in the past.

GREANEY, VINCENT. Trends in attainment in Irish from 1973 to 1977. *The Irish Journal of Education*, Summer/Winter 1978, 12, 22-35.

Provides comparative data on attainment in Irish reading, Irish usage, and Irish spelling in primary and secondary schools over the period from 1973 to 1977. Data were derived from the standardization samples of the *Drumcondra Attainment Tests* gathered at the beginning, middle, and end of the school year in 1973-74, 1974-75, and 1976-77. All third, fourth, fifth, and sixth standard pupils in 140 primary schools and all first- and second-year students in 56 post-primary schools took the appropriate level of the Drumcondra tests. Third, fourth, and fifth standard primary school children tested at the end of the 1976-77 school year scored higher than children tested during the middle of the 1973-74 school year. For sixth standard primary school pupils and first- and second-year post-primary students, the 1976-77 end-of-year scores in Irish reading and usage, but not in spelling, were lower than the corresponding 1973-74 mid-year scores. In English reading, end-of-year scores for all age level groups in 1976-77 were higher than those for middle-of-the-year 1973-74.

DRIVER, GEOFFREY. How West Indians do better at school (especially the girls). *New Society*, January 1980, 51, 111-114.

Looks at the recorded examination results for 2,300 school leavers in five multiracial British secondary schools. Special attention was paid to a comparison of results obtained by West Indian boys and girls with their English and Asian classmates. Data were examined for the 1975-78 school years. West Indian students achieved, for the most part, better results than their English classmates but not as well as Asian students at the 16-plus examination. West Indian girls excelled over West Indian boys, while English boys did better than English girls in the areas tested (English, math, science). A reading test taken at the 13-plus examination by one group of subjects showed English pupils doing slightly better than West Indian children.

FIJALKOW, JACQUES. La Complexité des relations grapho-phonétiques explique-t-elle les difficultés d'apprentissage de la lecture? Le cas de l'hébreu en Israël. *Journal of Research in Reading*, February 1980, 3, 52-59.

Presents in a brief English summary the findings of several surveys carried out in Israel. A national survey in 1977 shows that 39.55% of socially and culturally deprived children in their second year of school fall below standard in reading. A similar proportion of children in a 1978 Tel-Aviv survey were also exhibiting difficulty in reading. The author felt that the data did not support the complexity of grapho-phonetic relationships as a major factor in reading difficulties.

BALOGUN, I. O. B. The intellectual and residential correlates of reading achievement in Nigerian secondary schools. *West African Journal of Education*, June 1976, 20, 245-256.

Compares secondary reading achievement of students in Nigerian villages with students in Nigerian cities. The study investigated achievement at two age points, first classes of 12-13 year-olds and final classes of 16-17 year olds. The 300 subjects were distributed equally in four groups: Final-City, Final-Village, First-City, and First-Village. The *Raven Progressive Matrices*, Sets I and II were used to measure non-verbal intelligence, while the *Nelson Reading Test* and the *Nelson-*

Denny Reading Test were used to assess vocabulary and reading comprehension. Basic findings supported the hypothesis that city students would achieve higher than village students, with a more marked difference at the first class level than at the final class level.

BERGLUND, GOSTA W. On basic skills. *Practical Applications of Research*, March 1980, 2, 3. (Newsletter of Phi Delta Kappa's Center on Evaluation, Development, and Research).

Cites three research reports done in Sweden on basic skills. Included are two studies focusing on reading. The first of these two indicates an improvement in reading skills but a deterioration in writing and math skills from 1940 to 1977. The second briefly reports the suggestions emanating from a study of the development of communications skills among students in Swedish comprehensive and upper secondary schools.

GRUNDIN, HANS U. The development of reading and writing abilities in adults. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977. Pp. 127-137.

Assesses reading and writing abilities among 25- and 35-year-olds in Sweden and compares the findings with those from students in grades 7-9 and in grades 10-12. The sample consisted of less than 200 in each age group who were offered an honorarium for attending the two-hour testing session. Measures administered included an alphabet test, copying test, reading rate test, cloze test, tests of practical reading ability (insurance policy, forms, tables), essays on free writing test, and spelling test. Also given was a questionnaire which included information about occupation, education, self-evaluation of reading and writing ability, and a judgment of the importance of reading and writing abilities measured by the different tests. The mean educational level of the 25-year-olds was 11.7 years and for 35-year-olds, 8.7 years. Adults performed better on the tests than did students with the corresponding amount of schooling. The average 35-year-old's performance was close to grade 11, while the average 25-year-old performed above the median level for grade 12 students. However, on the reading rate and the copying tests, adults did not do as well as students. Although adults performed better than students on the tests of practical reading ability, only 12% had perfect scores in filling out all three forms, and 64% had a score above 80%. More than 30% of adults indicated that they found their reading and writing abilities insufficient for some of the tasks they had to undertake or would like to undertake.

DOWNING, JOHN. General principles of comparative reading. In Diana Feitelson (Ed.) *Cross-cultural perspectives on reading and reading research*. Newark, Delaware: International Reading Association, 1978. pp. 129-132.

Reiterates the aim of cross-cultural research and comparative studies in reading and gives examples of some of the insights into the reading process and the learning to read process that have been gleaned from comparative reading research.

SHAFFER, ROBERT E. A comparative study of successful practices and materials for teaching reading in the primary school as viewed by teachers in England and the United States. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the Thirteenth annual course and conference of the United Kingdom Reading Association), 1977. Pp. 326-340.

Questions British and American teachers about their views on methods and materials and compares the two groups. Twenty-three teachers in 21 schools in

England and 25 teachers from 25 Los Angeles schools were interviewed. In most instances, teachers were observed along with being interviewed. Samples of statements from teachers are presented. Most British teachers were in informal, open schools and used a language-experience approach to teaching reading. None claimed to utilize a basal series as the basic material for teaching reading. About 90% of the American teachers stated that the reading series was the basic material used for reading instruction. Many American teachers felt that the pressures of accountability and testing interfered with team teaching and open education.

DUFFELMEYER, FREDERICK A. A comparison of reading test results in grades nine and twelve. *Journal of Reading*, April 1980, 23, 606-608.

Analyzes the vocabulary and comprehension scores of about 200 average readers each in ninth grade and twelfth grade to determine the numbers of readers in three categories: balanced, word dominant, and paragraph dominant. Both groups were administered the appropriate level of the *Gates MacGinitie Reading Tests*, and those who scored in the 4-6 stanine range were included in the analysis. Scores were then analyzed to determine the appropriate category. Balanced readers were defined as those whose subtest scores were either identical or differed by no more than one stanine; word dominant readers were those whose vocabulary stanine score was two or more stanines higher than the comprehension score; paragraph dominant readers showed the opposite pattern. At grade nine level, 83% of students were judged to be balanced readers; 11%, word dominant; and 6%, paragraph dominant. Percentages at grade 12 were 73, 3, and 24, respectively for balanced, word dominant, and paragraph dominant. A second study viewed the relative difficulty of the vocabulary and comprehension tests at both test levels to determine if the students' scores were an artifact of the test or reflected reality. Results suggested the discrepancy in the patterns between the two grades was an artifact of the tests.

V-2 Status of reading instruction

WAREING, CAROL. Good, better, basic: determining priorities among competencies. *The Clearing House*, May 1980, 53, 410-412.

Surveys via a checklist all superintendents in Massachusetts administering to a student enrollment of 3,000 or more in an effort to determine the objectives they considered of greatest importance in education. Fifty-eight of the 121 superintendents surveyed returned completed forms. From a list of 35 educational objectives, they were to select the five considered to be of primary importance, five of secondary importance, and five of tertiary importance. Results indicated that skills in reading (91%), communication (88%), writing (69%), and computation (62%) were considered of primary importance.

SLOAN, CHARLES A., & WALKER, JAMES E. Perceptions of and practices in middle/junior high school reading instruction. *Journal of the Association for the Study of Perception*, Fall 1979, 14, 16-21.

Reports data on a mailed survey sent to 120 randomly selected Illinois middle/junior high schools requesting information about their reading programs. Final results were obtained from 79 schools. Of those responding, 53% reported that they had developmental and/or remedial programs, and 7% had a Title I program. In 68% of the programs, reading is taught by the regular classroom teachers. One full class period daily was provided for reading instruction by 72% of the schools. Students two or more years below grade level were assigned to a special reading program in 89% of the schools.

MOORE, JESSE C.; JONES, CLARENCE J.; & MILLER, DOUGLAS C. What we know after a decade of sustained silent reading. *The Reading Teacher*, January 1980, 33, 445-450.

Summarizes the effects of ten years of Sustained Silent Reading in our schools. The research reviewed led to the conclusions that SSR had a positive effect on student attitude toward reading, and that the effect on reading ability was also positive.

FOSTER, ANNE R. Reading in the California community college. *College Student Journal*, Spring 1979, 13, 77-81.

Presents results of a 17-item questionnaire sent to 101 public community/junior colleges in California inquiring about reading program content and organizational needs. Responses were obtained from 74 colleges. Of those replying, 93% stated that they had a reading program and another 8% that they were developing one. In 48 colleges, the reading program fell under the jurisdiction of the English department and six other colleges indicated reading was a separate department. No school offered less than two courses in reading, while 33 offered four to six or more courses. In 33 of the colleges, work in reading may be applied toward the Associate in Arts degree. The Nelson-Denny was the most widely used test. A Master's degree is required for fulltime teaching in 61 of the colleges.

MUIA, JOSEPH A., & CONNORS, EUGENE T. Clinical reading practices: some legal considerations. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 145-149.

Surveys 145 reading clinics to determine whether current practices are violating the rights of children. The 63-item questionnaire asked both objective and subjective questions related to procedures used in clinical reading evaluations. The findings indicated that most clinics protected the rights of children but that a small percentage engaged in practices which ignored children's rights. Some clinics (4%) do not notify parents for permission to test when the child is recommended by the school without the parents' knowledge. Some clinics do not obtain parental permission to film or tape the child. The majority of clinics do not allow for the cultural bias of tests.

BUSHMAN, JOHN H., & GUENTHER, JOHN E. A survey of language arts mini-courses. *English Education*, February 1980, 11, 156-161.

Presents results of a survey of 100 high schools in each of four midwestern states to determine if a trend toward teaching mini-courses was evident. Of the 265 principals (66%) responding to the survey of their course offerings, a total of 338 mini-course programs were reported, representing ten different high school departments. Language arts mini-courses were most prevalent: 74 schools reported them. Schools with high enrollment were more likely to have programs than low enrollment schools. A follow-up survey of 60 Kansas principals found that 1,664 mini-courses were offered in the respondents' schools. Of that total, 31% were either writing, grammar, usage, semantics or mass media courses; 44% were literature oriented. Reading courses represented 5% of the offerings.

RIBOVICH, JERILYN K. The effect of informational background on various reading-related behaviors in adult subjects. *Reading World*, March 1979, 18, 240-246.

Analyzes the comparative results of college undergraduates (25 education majors and 24 economics majors) when reading two 670 word reading passages of

eleventh-grade difficulty drawn from texts representing the two content areas. Criteria for reading performance evaluation included time, self perceived ease, statements of unexpected nature encountered and quality of written synthesis of passage. Analysis of variance findings and multiple comparisons of interactions are presented. Economics students performed better than education students on the economics selection and at equivalent levels in reading the educational selection.

V-3 Early reading

TORREY, JANE W. Reading that comes naturally: the early reader. In T. Gary Waller & G. E. MacKinnon (Eds.) *Reading research: advances in theory and practice*, (Vol. 1). New York: Academic Press, 1979. pp. 115-144.

Examines available research on early readers. Explores implications for research and teaching.

COHEN, RACHEL. *L'apprentissage précoce de la lecture: a six ans est-il déjà trop tard?* (Early reading: is age six already too late?) Paris: Presses Universitaires de France, 1977.

Reports a pilot study conducted in nursery school classes in the Ecole Active Bilingue, a private school but coordinated with public schools. Reading was introduced to four sections of children, ages 3½ to 5. Included in the program was a daily informal whole-group ten minute reading session which increased as the year progressed to 15 or 20 minutes. After eight months of instruction, teacher-made tests were administered. Seven out of 32 three-to-four-year-olds were able to read correctly three-fourths of the word and sentence items administered, 32 of 47 four-to-five-year-olds passed the same criterion. When the program was continued with a second group, the results showed that four out of 40 three-to-four-year-olds and 21 of 42 four-to-five-year-olds could pass the test.

HILL, RICHARD; GORDON, DAVID; & SWEET, DAVID. Reassessing "a statewide study of ECE and non-ECE schools on reading achievement, Grades 2 and 3, based on the California assessment program results." *Studies in Educational Evaluation*, Winter 1977, 3, 207-214.

Takes a second look at a state-wide report published in California evaluating the results of an early childhood education program. The report is first reviewed, then the data are reanalyzed, and finally the methodology of the original study is critiqued.

OLLILA, LLOYD O. Foundations: What have we learned about kindergarten reading programs? In Lloyd O. Ollila (Ed.) *Handbook for administration and teachers: reading in the kindergarten*. Newark, Delaware: International Reading Association, 1980. 1-17.

Includes a brief review of research on teaching reading in the kindergarten generally, as well as specific references to research findings on formal reading programs in kindergarten. The chapter is directed to administrators in an effort to give them an overview of knowledge about kindergarten reading instruction. It ends with a listing of concerns about present practices and recommendations for improvement.

MASON, JANA M. When do children begin to read: an exploration of four year old children's letter and word reading competencies. *Reading Research Quarterly*, 1980, 15(2), 203-227.

Observes for one year, what preschool children learn about letters and words, how they change in what they can learn and remember, and the kinds of mistakes they make. The purpose was to construct the natural steps children take in learning to read. Subjects were 38 middle-class, midwestern children enrolled in a university-operated pre-school center. A 27-item questionnaire was completed by parents in September and May. The questionnaire asked parents what their children knew about letters and words, how they used them in play, how the parents supported their child's interest in reading, and what sorts of words their child were learning. Throughout the year, children were administered a large number of tests, including name spelling, letter naming, word learning, responses to "write something" and word reading. The results indicate that parents do help children considerably with letters and letter sounds. Also, three levels of development of word reading were delineated: 1) alphabet knowledge and awareness of words, 2) spelling letters in words and noting letter configurations and 3) acquiring beginning strategies for attending to letter-sound units.

CASSIDY, JACK, & VUKELICH, CAROL. Do the gifted read early? *The Reading Teacher*, February 1980, 33, 578-582.

Describes the findings of a pilot study and a second study attempting to determine how many intellectually gifted pupils read prior to entering kindergarten as well as the effect of prekindergarten reading instruction on the gifted. In the pilot study, 28 children, referred by their parents, were selected to participate in a three week summer program. All were entering kindergarten in September. Selection included a score in the fourth stanine or above on the *Metropolitan Readiness Tests* (MRT). On the *Slosson Intelligence Test for Children and Adults* (SIT), 18 of the 28 scored 140 or above. Reading performance was assessed on the *Classroom Reading Inventory*. It was found that six children were reading. In the second study, children had to score in the fifth stanine or above on the MRT and 130 or above on the SIT. The 30 children selected participated in an instructional program which ran two hours a day, four days a week from mid-January until May. Activities include 30 minutes devoted to language experience and phonics instruction. The *Slosson Oral Reading Test* (SORT) was used to assess pre- and post-instruction reading ability. The greatest gains on the SORT were made by children who were already reading. Of the 30 readers, six were reading in January and six in May.

V-4 Reading readiness

KEAN, MICHAEL H.; SUMMERS, ANITA A.; RAIVETZ, MARK J.; & FARBER, IRVIN J. *What works in reading?* Philadelphia: Office of Research and Evaluation, The School District of Philadelphia, 1979.

Searches for the attributes and practices associated with the greatest improvement in reading growth in grades one to four. Schools were selected by rank ordering all elementary schools by overall average reading scores and overall gain scores in reading. The ten schools at the top of both lists, the ten at the bottom of both lists, and five in the middle were chosen for a sample of 25 schools. All of the fourth graders in the schools were included in the study. A total of 162 variables about each of the 1,828 pupils involved were placed into the computer file; combinations of these variables increased the total to 245. Variables included facts

about the school principal, the reading teacher, the classroom teacher, the school, and the individual pupil. Extensive multiple regressions were run and double-checked against a cross-validation sample of 25% of the pupils. Extensive data and a number of findings concerning factors which made a difference are reported. Among those factors which contributed to better performance were: kindergarten attendance; regularity of pupil attendance; principals; experiences in the field of reading; teacher experience and attendance; amount of sustained silent reading time; larger class size (up to 35); and instruction in small group/whole group class combination as opposed to instruction in small groups only, large groups only, or one-to-one basis only.

ROBERTS, CHRISTINE L. Teaching disadvantaged preschoolers to read. *New England Reading Association Journal*, 1978, 13, 12-16.

Reviews research literature on Head Start, Follow Through, and other programs dealing with findings relevant for reading teachers. Implications are drawn for teacher training, teacher reading, working with parents, and for future research in the area.

DOWNING, JOHN, & LUNDSTEEN, SARA. Understanding new perspectives of early childhood: what does research tell us about children? In Lloyd O. Ollila (Ed.) *Handbook for administrators and teachers: reading in the kindergarten*. Newark, Delaware: International Reading Association, 1980. 18-41.

Cites a number of studies on various aspects of early childhood development as they relate to or influence readiness for learning to read. Topics included are visual acuity and visual perception, auditory acuity and auditory perception, conceptual learning and reasoning processes, oral language development, and affective factors.

COLTHEART, MAX. When can children learn to read—and when should they be taught? In T. Gary Waller & G. E. MacKinnon (Eds.) *Reading research: advances in theory and practice*, (Vol. 1). New York: Academic Press, 1979. pp. 1-30.

Examines the concept of reading readiness and reviews some research on readiness for reading.

BUTTERY, THOMAS J. Reading readiness for mainstreamed exceptional children in early childhood education. *Reading Improvement*, Summer 1979, 16, 118-122.

Incorporates research findings in a review of the concept of reading readiness as it applies to mainstreamed exceptional children.

WAKSMAN, MARY. Mother as teacher: a home intervention program. *Interchange*, 1979-1980, 10(4), 40-52.

Designs a program to improve maternal teaching strategies and notes whether this results in a change in school performance. Subjects were 23 experimental and 25 control junior and senior inner-city kindergarten children and their mothers. Experimental mothers were visited weekly by paraprofessionals who presented them a task to teach their child. Tasks included such things as recognition of colors and shapes, familiarity with letters and number systems, and development of concepts of size and time. Home visits lasted for 15 to 60 minutes and included a role-playing session in which the paraprofessional assumed the child's role, while the mother taught the task. The program continued for 20 weeks and a total of 22 tasks were developed. Both groups of children continued to attend school. Pre- and posttest assessments were done using the following instruments: *Peabody Picture Vocabulary Test* (PPVT), *Metropolitan Readiness Test* (MRT), and the *Child*

Observation Questionnaire. In addition, social emotional behavior and motor academic performance were assessed. Mothers were given the *Mother-as-Teacher Task* on a pre/posttest basis. Experimental group mothers changed significantly on several tasks such as an increase in the use of praise, an increase in total talk between mother and child, and an increase in the percentage of child's talk. Control mothers did not show significant changes in these areas. Experimentals showed a significant increase of six IQ points on the PPVT while the controls showed no gains. Although both groups demonstrated gains on the MRT, only the experimental group showed statistically significant gains on the overall score.

WALKER, GEORGE H., JR., & KUERBITZ, IRIS E. Reading to preschoolers as an aid to successful beginning reading. *Reading Improvement*, Summer 1979, 16, 149-154.

Uses a parent questionnaire to determine how frequently children were read to at home as preschoolers and then views those data in relationship to success in beginning reading. Based on responses from 36 parent questionnaires, children were classified into three groups: Read to every day (N = 20), Read to every other day (N = 13), and Read to once per week (N = 3). Most parents indicated that their children enjoyed being read to. A larger proportion of those read to more frequently had favorite stories that they asked to have read to them. There was a statistically significant relationship between the desire to have favorite stories read and scores on a first grade reading test. The data also suggested that children who participated more frequently in a story-time experience scored better on end of first grade reading tests. However, by the end of third grade, scores of those read to less frequently appeared to have caught up with the other children's scores.

V-5 Teaching reading—primary grades

WILKINSON, LOUISE CHERRY, & DOLLAGHAN, CHRIS. Peer communication in first grade reading groups. *Theory Into Practice*, October 1979, 18, 267-274.

Focuses upon the communication process among first-grade children in all pupil reading groups from which the teacher is absent. The data were drawn from three first-grade reading groups in three different classrooms consisting of four, five, and six children, respectively. All groups were the most advanced in their class. Children's language was examined using type-token ratio, sentence complexity, and comprehension of language. Video and audiotapes were made during reading which consisted of all-pupil interactions. Requests for action and requests for information were analyzed. The data demonstrated that children engaged in a variety of strategies in both requests for action and for information.

MCMICHAEL, PAQUITA. Scottish success in developing early reading skills. *Reading Psychology*, Fall 1979, 1, 19-31.

Studies the progress of 198 boys from manual working class homes during their first two years at eight Scottish primary schools to note the contribution of parents and the contribution of teachers to the development of reading skills. Thirty-three teachers were involved. Measures used were: 1) the *Thackray Reading Readiness Profiles*; 2) the *Southgate Test of Word Selection*; 3) the *Teacher Questionnaire on Early Reading*; and 4) Parental Interview. There appeared to be no relationship between parents' reading to their children and children's performance in vocabulary, visual and auditory discrimination, and perceptuo-motor ability as assessed by the readiness tests. Nor was any relationship found between parents' reading to children and scores on the word recognition test. Although the boys

tended to score below the norms on the readiness measure, they equalled the norms on the word recognition test. An analysis of teaching methods that might account for this suggested that an early start into a code emphasis program appeared to be utilized.

MCLAUGHLIN, T. F.; BIG LEFT HAND, PHYLLIS; & CADY, MONEDA. Effects of the behavior analysis model of follow through on reading achievement of native American elementary school children. *Reading Improvement*, 1979, 16(4), 314-316.

Presents achievement data for children in grades K-3 who were continuously enrolled in the Northern Cheyenne Behavior Analysis Model of Follow Through. Achievement data were collected from 1970 to 1978 using scores on the *Wide Range Achievement Test*. Numbers of pupils, labelled cohorts, ranged from two to 71. Results indicated that 18 of the 22 cohorts of pupils achieved at or above grade level. Testing at the end of grade three revealed a range from 2.9 to 5.9.

ALLINGTON, RICHARD, & CHURA, SUSAN. Effects of instruction type on word prediction behaviors. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 29-32.

Asks whether proficient second grade readers instructed by two different approaches, a code-emphasis or an eclectic approach, utilize contextual information equally well when predicting deleted words. Subjects were given either the reading comprehension subtest of the *Peabody Individual Achievement Test* or the *Metropolitan Reading Test* to determine reading ability. Only those scoring 2.4 grade equivalent or above were included. Subjects were then asked to read 12 test sentences with a missing word, four words each at rich, moderate, or low levels of contextual richness. Unknown words were given to subjects and single graphemes were sequentially presented in the target word until a correct response was given. Subjects receiving code-emphasis instruction required less graphemic information to produce the target word in all conditions. However, the differences were not statistically significant. Subjects given the eclectic approach pronounced a significantly larger number of words after all graphemes had been exposed.

RAMIG, CHRISTOPHER J., & HALL, MARY ANNE. Reading strategies of first grade children taught by a language experience approach and a basal approach. *Reading World*, March 1980, 19, 280-289.

Contrasts the miscue analysis patterns of end-of-year first grade children instructed by a basal reader with those of children using a language experience approach. Data for reading connected text came from 21 pupils in each group; for word list reading, data from 23 pupils in each group were obtained. For the running text situation, children read a basal reader story of 140 words in length. The word list consisted of 25 words randomly selected from the Harris-Jacobson Core list. There were no significant differences between groups in mean number of miscues while reading running text or for graphophonic, syntactic, or semantic miscue categories. No significant differences were found between groups on the word list for number correct, number of non-responses, number of real word substitutions, or number of nonsense word substitutions.

HORODEZKY, BETTY. Comparative difficulty of beginning reading vocabulary: set II. *The Alberta Journal of Educational Research*, December 1979, 25, 259-263.

Designs a study to determine the relative learning difficulty of a second set of 50 most frequently occurring words found in early primary reading materials. The relative learning difficulty of 13 additional words taken from the first 63 words in the Comprehensive Reading Vocabulary Primary Level list was also ascertained. The population consisted of 108 kindergarten children, placed into high, medium, or low categories based on their scores on the *Slosson Intelligence Test*. The 63 sight words were divided into three lists and three instructional methods were used in teaching the words: phonic, kinesthetic, and meaningful context. Children were divided into nine groups and three groups each were assigned randomly to one of the three instructional methods. Each method group studied one word list of 21 words on a schedule of seven words per week using 15-minute sessions on two consecutive days per week. Recall was assessed both immediately following each instructional session and 24 hours after the second instructional session. Rank order of difficulty for the 63 words was determined through ease of learning indices. Frequency of occurrence of the words did not appear to be related to their learning difficulty. Instructional method did not appear to effect acquisition. Rank order of learning difficulty was not significantly different for any single method.

HILLERICH, ROBERT L. Syllabication. *Ohio Reading Teacher*, January 1980, 14, 12-14.

Determines from an analysis of the research literature whether teaching syllabication rules aids children in their reading ability. The author concluded that little justification can be found for teaching rules about the specific point of syllable division. To know that longer words may be broken up into smaller parts and that compound words frequently consist of known words may be helpful, however.

SAMUELS, S. JAY. The age-old controversy between holistic and subskill approaches to beginning reading instruction revisited. In Constance M. McCullough (Ed.) *Inchworm, Inchworm: Persistent Problems in Reading Education*. Newark, Delaware: International Reading Association, 1980. Pp. 202-221.

Reviews some of the research on the holistic versus a subskill approach to learning to read.

WEAVER, PHYLLIS A. Improving reading comprehension: effects of sentence organization instruction. *Reading Research Quarterly*, 1979-1980, 15(1), 129-146.

Investigates the possibility of improving reading comprehension by training sentence organization skills (those that enable the reader to process sentence information in units larger than the single word). A sentence anagram task and word-grouping strategy were developed and implemented to explore the effects of training organizational skills on reading comprehension. Subjects were 31 third graders, 16 experimental and 15 control. Fifteen pupils were average readers (mean reading level, 2.8), and 16 were above average (mean reading level, 4.5). Average and above average readers, controlling for sex, were assigned randomly to experimental and control groups. Experimental pupils individually received sentence anagram training for 10 to 15 minutes three times a week. Results indicated that training significantly improved sentence anagram performance and transferred to reading comprehension performance as measured on the *Metropolitan Achievement Tests*. The author concluded that this study supports the contention that sentence organization skills are an important aspect of reading comprehension and supports the value of instruction explicitly designed to improve reading comprehension.

CORNO, LYN. Individual and class level effects of parent-assisted instruction in classroom memory support strategies. *Journal of Educational Psychology*, June 1980, 72, 278-292.

Tests an instructional treatment, the Learning Skills Program (LSP), designed to sensitize third graders to teacher structuring and strategies used in classrooms and notes the effect on reading test scores. Instruction was guided by parents. The experimental design consisted of three levels of teacher training unrelated to LSP (personal-interactive training, correspondence course training, and teachers who were observed only), two school districts, and LSP-treatment versus no LSP-treatment groups. The 33 classrooms involved were randomly assigned to 17 LSP-treatment and 16 no-LSP treatment groups. Sections of the following instruments were administered: the Vocabulary subtest of the *Cognitive Abilities Test*; the Reading subtest of the *Metropolitan Achievement Test*, Elementary; *Raven's Standard Progressive Matrices*; the *Children's School Questionnaire*, an anxiety measure; and a yes-no quiz to determine LSP concept acquisition. Children were pretested in October and tested again in January and May. Results indicated that treated pupils and classes significantly outperformed control pupils on reading achievement and other verbal ability tests.

HOWE, TREVOR G., & SZYMCZUK, MIKE. Cohort analysis of reading scores in several IGE elementary schools. *Educational Research Quarterly*, Fall 1978, 3, 52-61.

Studies the long term effects of an Individually Guided Education (IGE) program on reading achievement scores of elementary school children. Reading scores on the *Gates-MacGinitie Reading Test* for 711 first and second grade children were examined over several years. For each child, there was a first grade score and a second grade score. Children were further divided into cohort groups, or samples of children who had been in grades one and two during the same school years. Schools used were studied for IGE's effect as a function of duration or amount of time the IGE program had been in use and also for the amount of IGE program implementation. The letter was determined by an interview/observation instrument. Ultimately the IGE score was not utilized, because of the narrow range of difference between the highest and lowest scores on this measure. No significant cohort effect was found. The cohort which had experienced no IGE scored as well as the cohort which had been involved in the IGE program. However, schools fluctuated across cohorts with the first cohort group to experience the IGE program showing an increase in the mean reading score. Maintenance and enhancement of reading scores in successive cohorts was inconsistent among schools, however.

EEDS-KNIEP, MARYANN. The frenetic fanatic phonic backlash. *Language Arts*, November/December 1979, 56, 909-917.

Reviews the research around the topic of teaching reading through a phonics approach or with the whole word approach.

V-6 Teaching reading—grades 4 to 8

MAXWELL, JAMES. Reading research—a problem for teachers. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977. Pp.44-46.

Covers the period of schooling from P4 to P6 in Scotland and notes whether any teaching practices, policies or materials were associated with greater

progress in reading than were others. Teachers of P4, P5, and P6 classes were interviewed relative to their aims in teaching reading and about their practice in giving homework involving reading. Approximately 100 classes at each level were used. The incidence of assigning homework decreased from P4 to P6. Teachers' aims shifted toward interest/enjoyment and away from skills as children progressed through school. Of the classes included, only 16 received regular homework over the three years and no classes spent the three years without some homework. Eight classes were consistently taught reading with an interest/enjoyment emphasis, but none received consistent instruction stressing comprehension or skills. Because of the small number of classes receiving consistent emphases or homework, no clear answer could be given to whether particular practices led to greater reading progress.

PUGH, ANTHONY K. Reading fluency in middle-school children. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977. P. 91-98.

Reviews three types of data collected on British nine- and ten-year-old children in their first year at middle school: 1) an assessment of reading while listening as a means of developing fluency; 2) a comparison of performance on cloze tests of reading, listening, and restricted reading; and 3) a study of children's performance and strategies when reading silently to locate information. The author briefly reviews research in each of these areas and comments on the finding from his own research. Findings suggest that some children of below average ability benefit from an approach combining reading while listening. When comparing performance on cloze tests of reading and listening, the author states that there are differing styles of processing employed by nine- and ten-year-old children. When discussing performance and strategies in locating information, the author notes that children appeared to use little strategy at this age even when teachers had paid specific attention to information location work.

AULLS, MARK, & GELBART, FELIX. Effects of method of instruction and ability on the literal comprehension of short stories. *Research in the Teaching of English*, February 1980, 14, 51-59.

Contrasts four methods of instructing able and less able seventh-grade readers in reading short stories. The effect on literal recall, attitude toward method of instruction, and attitude toward reading were investigated. Using scores on the *Gates-MacGinitie Reading Test*, Level E, as the basis for selection, 24 pupils reading above grade level and 24 reading below grade level were identified. Subjects were assigned to four instructional groups in a manner so that each group was composed of half able readers and half less able readers. Instruction occurred in 45-minute periods once a week for eight weeks. Each week subjects read a short story of approximately 2,600 words in length. Group 1 received vocabulary training prior to reading each story; Group 2, vocabulary training along with guided silent reading by means of a paced reading technique; Group 3, guided silent reading using a paced reading technique; and Group 4 was told to read the story silently. A ten-item test followed the reading of each short story. For literal comprehension as assessed by the ten-item test, able readers outperformed less able readers in Groups 1 and 2, but no significant differences were found between the two ability groups in Groups 3 and 4. For able readers, the Group 2 instructional procedure was best, but no significant differences (.05 level) were noted among instructional approaches for less able readers. Attitude, as assessed by the Estes scale, was significantly better for Group 2 pupils than for the other groups.

SASSENATH, JULIUS M.; PIERCE, LAJLA C.; & MADDUX, ROBERT E. Functional color components used in reading instruction. *Psychology in the Schools*, January 1979, 16, 132-136.

Compares improvement in reading with and without the use of functional color components (FCC). FCC used five colors to divide words with usable components. A total of 190 third- through sixth-grade children were taught with FCC for either six, 16, or 26 months. A control group of 160 grade 3 and 4 children was also included. The *Comprehensive Test of Basic Skills* (CTBS) was administered. All those scoring below the 25th percentile were classified as slow or reading disability cases and all those above that score were designated normal readers. Eighty-six FCC children showed a pre- posttest mean gain of 1.71 grades between the beginning of third grade and the end of fourth grade; the mean gain for controls over the same period was 1.14 grades. The difference was statistically significant. Reading disability pupils prior to FCC instruction showed a mean grade equivalent gain of .61 months per month of instruction; normal readers showed a mean gain of .92 months per month of instruction prior to FCC. Following FCC, disabled readers showed mean gains of .8, .81, and 2.22 grade equivalents for six months, 16 months, and 26 months of instruction, respectively. Normal readers showed gains of 1.01, 1.70, and 2.70 for six, 16, and 26 months of FCC.

LEY, TERRY C.; HENRY, LOREN L.; & ROWSEY, ROBERT E. Eighth graders' performance in reading and computing for science-related word problems. *Journal of Reading*, December 1979, 23, 222-228.

Examines the relationship among general reading ability, reading and thinking problem-solving skills, and computation skills as they relate to performance on science word problems. Subjects consisted of 152 grade eight students from two classes in each of three schools. Two instruments were constructed and given to all students, the Mathematics Test (MT) and the Word Problems Test (WPT). The MT consisted of 18 computations, and the mean score on it was between 14 and 15 in all three schools. The WPT consisted of 40 items which were classified into Literal Comprehension (N = 16), Vocabulary (N = 12), Task Identification (N = 6), and Problem Solution (N = 6) subtest items. About 81% of students responded correctly to 13 or more of the 16 literal comprehension questions and 65% correctly answered at least 10 of the vocabulary items. Task identification was completed correctly in five out of six items by 78% of students. However, only 26% solved five of the six problems correctly. When the same computations were done on the MT, 71% of students had the five of six computation tasks correct. Analysis of the process subjects used in attempting solutions to the word problems indicated that almost one-third did not select an appropriate process and another 71% made no attempt to solve a given word problem.

BRAZEE, ED. Teaching reading in social studies: skill-centered versus content-centered. *Colorado Journal of Educational Research*, August 1979, 18, 23-25.

Studies the effect of two approaches to teaching reading in social studies: skill-centered versus content centered. Subjects consisted of two classes of 20 grade six pupils each. Control subjects were instructed in SQ3R and in rate flexibility for approximately 10 minutes daily for seven weeks. Instruction occurred prior to and separate from the social studies lesson. Experimentals were instructed in the same two skills within the context of the social studies material. Experimentals received less instructional time in reading. Both groups were taught in a team approach which included a reading teacher. Pre- and posttest measures were given consisting of a chapter in the social studies text read with no directions given and under a 20-minute time limit. Flexibility was assessed by asking subjects how far they had read

and the type of reading used. Ability to use the survey part of SQ3R was assessed by asking pupils to recall specific information about the structure and content of the chapter. On the pretest, both groups had 11 of the 20 children reporting that the chapter had been read word-by-word; on the posttest, 12 controls and six experimentals reported word-by-word reading. On the survey part of the test, both groups showed gains from pre- to posttest, but experimentals showed a slightly larger gain.

TYO, JOHN. An alternative for poor readers in social science. *Social Education*, April 1980, 44, 309-310.

Uses tape recorded social studies textual material with poor readers and notes the effect on comprehension. Subjects consisted of 104 poor readers in junior high school. Experimentals simultaneously listened to and read assignments; controls had the same program without tapes. Classes met in 50 minute daily sessions for one semester. A cloze test using social studies content was the criterion measure. Experimentals scored significantly higher than did controls.

SOLTIS, JUDITH M., & PFLAUM, SUSANNA W. The effect of instruction in connectives on reading comprehension. *Reading World*, December 1979, 19, 179-184.

Studies the influence of an instructional program in the identification, meaning, and selection of syntactical connectives administered 15 minutes daily for seven weeks to seventh grade, innercity, different-ethnic pupils eligible for Title I funds. The control group consisted of comparable eighth grade pupils sharing the same reading teacher. Pre-testing revealed no differences between the two groups. Post-test comparisons revealed significant superiority for the treatment group on the connectives test but not on McCall-Crabbs Standard Test Lessons comprehension.

GIPE, JOAN P. Use of a relevant context helps kids learn new word meanings. *The Reading Teacher*, January 1980, 33, 398-402.

Compares four methods of teaching word meanings: 1) the association method, associating a known word with an unknown word; 2) the category method, adding to a list of words fitting a general category; 3) the context method, using an unknown word in several meaningful sentences; and 4) the dictionary method, looking up the unknown word in the dictionary and writing its meaning. Subjects were 93 third graders and 78 fifth graders, each from four classrooms in a midwestern elementary school. All students were taught in all four methods, each method for a two week period. The four grade three and four grade five classrooms were randomly assigned to treatment orders. Twelve words were taught by each method each week, thus there were 24 words per method and 96 words over the course of the study. The dependent variable was the average number of words correct on weekly tests given at the end of each of the eight weeks. For third and fifth graders and for good and poor readers, a significantly greater number of words were learned in the context method. In all but one case (good reading fifth graders) the dictionary method resulted in the fewest number of words learned.

CLINE, RUTH K. J., & KRETKE, GEORGE L. An evaluation of long-term SSR in the junior high school. *Journal of Reading*, March 1980, 23, 503-506.

Reports on a sustained silent reading program (SSR) carried out in a junior high school over a six-year period. Only students who had attended the junior high school for three years were included as experimentals. A control group for comparison purposes came from two junior high schools with a comparable student

body. Test scores available for both experimental and controls included the following: 1) *SRA Assessment Survey: Reading*, Green Level, in sixth grade; 2) *Lorge-Thorndike Intelligence Tests*, Level 4, in seventh grade; and 3) in ninth grade, the *Comprehensive Test of Basic Skills*, Level 4, the *Short Form Test of Academic Aptitude*, Level 5, and a locally developed attitude scale. Experimentals totaled 111; controls, 138. Four of the 12 attitude items showed a statistically significant difference ($<.05$) in favor of the SSR students over the controls. Achievement data were analyzed for total groups as well as by sex and by ability. There were no differences on achievement measures.

V-7 Teaching reading—high school

COLE, JOHN. Children's reading for homework: teacher prediction and pupil claim. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977. Pp. 190-202.

Administers questionnaires to teachers and their students relative to two homework assignments. Teachers of first- and fourth-year groups in British secondary schools and their students were involved. Subject areas covered English, math, science, and social studies. Generally, one teacher in each area at each level and about 12 of the students in each class were queried. Of the total questionnaires sent out, 94 were returned by teachers and 1092 by students. The responses indicated that 97% of teachers and 96% of students felt some reading was involved in the homework. Teachers estimated that students would spend about 39 minutes on the homework, and students claimed that they had spent about 44 minutes with it. Of this, teachers estimated about 14 minutes of reading time, and students claimed the same amount of time was spent reading. Teachers of English and social studies expected a greater amount of time to be spent on homework than did math and science teachers. However, English and social studies teachers consistently overestimated the amount of time students actually claimed to have spent reading. When asked to check among eleven purposes for reading, 40% of first-year and 13% of fourth-year English teachers expected that reading for pleasure would be part of the reading purposes for homework. However, only 21% of first year students and 11% of fourth year students claimed it as a purpose in reading their homework. Other findings are presented and discussed.

FRY, EDWARD. What do you call a reading course? *New England Reading Association Journal*, 1980, 15(1), 8-10.

Examines a random sample of requests ($N = 500$) for a skimming/scanning drillbook to see what titles were given to reading courses in middle schools or junior high schools, high schools, and colleges. The most popular title was Developmental Reading used by 32 high schools, 12 middle/junior high schools, and nine colleges. The most frequently used specific title was Speed Reading, with 32 high schools, 12 middle/junior highs, and nine colleges using it. Other titles reported include Reading Improvement, Reading Skills, Reading Techniques, Power Reading, Remedial Reading, Study Skills, and English.

KINTISCH, LENORE S. Classroom techniques for improving Scholastic Aptitude Test scores. *Journal of Reading*, February 1979, 22, 416-419.

Measures the effect of a reading program designed to improve verbal skills on the *Scholastic Aptitude Test* (SAT). The program was evaluated by comparing 76 students in either an experimental or a matched control group. Experimentals

consisted of students who elected the reading course; controls consisted of students whose eleventh grade SAT verbal scores were similar to those of experimentals but who did not take the reading course. Data were collected over a three-year period. The reading course met twice weekly for 20 weeks. When comparing grade 12 SAT scores with grade 11 scores, experimentals showed a mean gain of 35 points as opposed to a mean gain of 21 points for controls.

LARSEN, JANET J., & GUTTINGER, HELLEN IRELAND. A secondary reading program to prevent college reading problems. *Journal of Reading*, February 1979, 22, 399-403.

Describes a secondary reading program entitled the Pre-adult Model of Reading. The program is nine weeks in length, six of which are used to develop specific reading skills. Evaluation of the program has indicated gains in rate, vocabulary, and comprehension.

PRIDDLE, ANTHONY G. Reading in mathematics. In Glenda Page, John Elkins & Barrie O'Connor (Eds.) *Communication through reading. Proceedings of the Fourth Australian Reading Conference*, 1978, vol. 2. Pp. 53-63.

Includes research findings in an article dealing with suggestions for the mathematics teacher in aiding students to read math materials more effectively.

SADOSKI, MARK C. An attitude survey for sustained silent reading programs. *Journal of Reading*, May 1980, 23, 721-726.

Conducts an action research project to determine the desirability of instituting a sustained silent reading program (SSR) at the senior high level and also to develop an attitude instrument. A seven-week pilot program indicated support and enthusiasm for the project. A five-item attitudinal instrument was developed and given to 287 students several weeks following the pilot project. On a four-point scale, the total mean score for the three items that assessed attitude was 2.58. The lowest mean ratings for each question tended to come from low ability students. A faculty questionnaire resulted in higher ratings for the SSR program than students had given it.

MINTON, MARILYN JOY. The effect of sustained silent reading upon comprehension and attitudes among ninth graders. *Journal of Reading*, March 1980, 23, 498-502.

Examines the effect of a 15-minute sustained silent reading (SSR) period lasting one semester upon the reading comprehension of 550 ninth graders as assessed by the *Gates-MacGinitie Reading Test*. In addition attitudes of students and staff toward reading and the SSR period were assessed by a teacher made questionnaire. Descriptive results presented revealed growth in speed and accuracy (six months), and vocabulary (three months). No tests of significance or regression effect were reported. Pupil and staff attitudes were of mixed negative nature, and the program was discontinued. Factors contributing to the failure of the program are discussed.

MATEJA, JOHN A. Interaction process analysis of sustained silent reading. *Reading Psychology*, Spring 1980, 1, 121-126.

Employs an interaction process analysis model to note teacher-student interaction at the secondary level during sustained silent reading (SSR). A total of 67 high school students who scored in the lowest quartile of a standardized reading

test and were enrolled in a Title I program were included. Tape recordings were made of each 20-minute class and scored later by three independent judges. Only the category for continuous silence was used. The author points out the problem of relying on verbal behavior only.

BAILEY, KEVIN SUE. The literature experience. In Harold G. Shane & James Walden (Coordinators) *Classroom-relevant research in the language arts*. Washington, D.C.: Association for Supervision and Curriculum Development, 1978. pp. 132-142.

Includes some citations to research in an article dealing with the teaching of literature.

V-8 Teaching reading—college and adult

DARRELL, BOB. A faculty survey of undergraduate reading and writing needs. *Peabody Journal of Education*, January 1980, 57, 85-93.

Presents data on a questionnaire sent to 42 faculty members concerning their perceptions of undergraduate reading and writing needs. Responses were received from 34 faculty members. Faculty were asked to select the skill most essential for success in their classes from comprehension, vocabulary, evaluation, and speed reading. Twenty-four respondents identified comprehension as the needed reading skill. When asked to rate students' reading skills, no one thought such skills were excellent while 19 or 56% felt them to be less than adequate, and eight persons rated them as poor. When asked to choose between comprehension and critical evaluation of content to determine the single most significant reading weakness in students, 79% of respondents selected comprehension. More than half of the faculty respondents felt that writing skills of students were inadequate.

ARON, HELEN. A community college reading and study skills program: what is it, what does it do? *Journal of Reading*, December 1978, 22, 231-235.

Views the research related to community colleges under five areas: reading instructors, students, credit for courses in reading and study skills, general program descriptions, and concerns for the future.

HIATT, MICHAEL R., & KILTY, TED K. Characteristics of reading programs in Michigan community and junior colleges. *Reading Horizons*, Spring 1980, 20, 224-228.

Mails a questionnaire to 33 community and junior colleges in Michigan inquiring about 11 characteristics of the reading programs offered. Returns were received from 22 institutions. All but one school responded that reading instruction was offered. Twelve institutions provided instruction in basic skills at grade levels one through three, 19 offered instruction at grade levels four through six, and 22 reported instruction offered at seventh grade level. Twenty-one of the schools replied that students may request reading instruction, and eight required reading instruction on the part of some students. At 18 schools, a diagnostic test was given to determine level and type of instruction, nine used informal inventories, five used trial lessons, and eight utilized other methods. The most frequently used material was a workbook with a number of schools reporting the use of devices such as a controlled reader and programmed materials. The average length of time in a program was one term or one semester.

KURTH, RUTH JUSTINE. A comparison of small group and individualized instruction in junior college remedial reading programs. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 174-176.

Compares the effectiveness of two types of junior college remedial reading programs: individualized laboratory instruction versus small group instruction. Subjects were 108 students enrolled in mandatory remedial reading courses in two junior colleges. Reading scores on the *Iowa Test of Basic Skills* ranged from 4.0 to 6.9. Of the total group, 60 were randomly selected to be taught in small groups of ten and 48 were taught individually in a laboratory setting. Instruction lasted for one semester with each group receiving two 50-minute periods per week. Alternate forms of the *Stanford Diagnostic Reading Test*, Level II, and the terminal word attack test of the *Wisconsin Design for Reading Skill Development* were given as pre- and posttest measures. Using pretest scores as a covariate, one way univariate analyses of covariance were calculated for the word recognition, comprehension, and vocabulary posttest scores. Significant differences were found for comprehension and vocabulary scores favoring small group instruction. An attitude survey administered to subjects showed little difference between the two groups.

USOVA, GEORGE M. The effectiveness of a college freshman reading-study skills course. *Reading Improvement*, Fall 1979, 16, 190-191.

Assesses the effectiveness of a reading-study skills course for freshmen at a military college. Subjects were 44 freshmen who ranked lowest among classmates on the basis of their predicted Grade Point Rates (G.P.R.) a weighted-composite of high school standing (94%) and SAT verbal score (6%). The course met one hour per week for 15 weeks. The mean predicted G.P.R. on a four-point scale was 1.17; actual G.P.R. was 1.98. Among the total entering freshman class, the dropout rate was 11.6%; for those participating in the reading-study skills course, the dropout rate was 4.76%.

STALEY, NANCY K., & SMYTH, THOMAS J. C. An evaluation of the effectiveness of a college reading program using four criteria. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 182-185.

Evaluates the effectiveness of a college reading program. Subjects were 148 experimentals who took a developmental reading course and 53 controls who did not take the class. A score below the thirty-sixth percentile on the *Nelson-Denny Reading Test* was used to place students into the reading improvement classes. An alternate form of the Nelson-Denny was administered at the end of the semester, and scores were used to evaluate the program along with English grades, grade point averages, and attrition information. No significant differences were found between the two groups on Nelson-Denny posttest scores or on grade point averages. Grades in English favored the experimental group. Attrition rate was also significantly lower for experimentals.

LEVINSON, BETTY, & COHN, FLORENCE. A summer "hype" for high risk readers. In Gwyn Enright (Ed.) *Proceedings of the Twelfth Annual Conference of the WCRA (Western College Reading Association)*, 1979. Pp. 25-30.

Describes and presents data on the effectiveness of an intensive six week reading program designed for entering college freshmen scoring below 450 on the CEEB *English Composition Achievement Test*. The reading component of the program consisted of 24 one-and-one-half hour sessions and included instruction

in sentence and paragraph reading, SQ3R, critical reading, and rapid reading. Program effectiveness was determined by pre- and posttest scores on the *Nelson-Denny Reading Test* and students' self-evaluation of reading skills and strategies. A mean difference of 4.84 points between pre- and posttest Nelson-Denny comprehension scores was found. Significant gains were also made in rate. Gains were also shown on students' self-reports.

SMITH, CHRISTINE C. The use of the *English Placement Test: Reading* in developing a college reading program at California State University, Northridge. In Gwyn Enright (Ed.) *Proceedings of the Twelfth Annual Conference of the WCRA* (Western College Reading Association), 1979. Pp. 36-42.

Notes the relationship between various reading screening devices used with college undergrads enrolled in reading and writing improvement courses and also views pre- and posttest reading scores after 30 hours of reading instruction. Subjects were administered the *English Placement Test: Reading* (EPT: R) and the *McGraw-Hill Basic Skills System: Reading III* (BSS). The correlation coefficient between the grade in English and the EPT: R score was .37; between the English grade and BSS, .26. A significant increase was found between pre- and posttest reading scores following the reading improvement program.

KARZAG, ELIZABETH A. The audio-visual vocabulary program (AVVP): an innovation in practice. In Gwyn Enright (Ed.) *Proceedings of the Twelfth Annual Conference of the WCRA* (Western College Reading Association), 1979. Pp. 6-11.

Describes the development and pilot evaluation of an auditory, visual, and contextual vocabulary program for college students. Vocabulary word lists were developed with input from faculty in nursing and social sciences. Twelve students were used in the piloting of the materials and were pre- and posttested on vocabulary terms. The seven students who completed the program averaged 52 to 78 hours of work in it over the course of one semester. Their mean test scores went from 68% correct on the pretest to 96% correct on the posttest.

SANTA, CAROL M., & TRUSCOTT, ROBERT BLAKE. A college reading program: the integration of reading, writing, speaking and thinking within the content areas. *College Student Journal*, Winter 1979, 13, 391-397.

Describes and presents evaluation data on a college reading and study course designed for freshmen scoring below the 35th percentile on the *McGraw-Hill Reading Test*. The course met three hours a week for one semester. Comparisons were made between students enrolled in either the fall (Group 1) or the spring (Group 2). Group 2 subjects received no instruction in reading in the fall. Grade point average (GPA) comparisons were made between the two groups for the fall semester and again in the spring. There were 33 students in Group 1 and 20 in Group 2. Subjects taking reading in the fall had higher GPAs the first semester than did Group 2 subjects. No differences were found at the end of the spring semester.

ABARTIS, CAESAREA, & COLLINS, CATHY. The effect of writing instruction and reading methodology upon college students' reading skills. *Journal of Reading*, February 1980, 23, 408-413.

Determines if participation in any of four types of composition courses or two types of reading methods courses affected either reading test scores or attitudes toward reading or writing. Subjects were 817 undergraduates who were administered, as pre- and posttests, the *Nelson-Denny Reading Test* and a reading/writing attitude assessment. Experimental subjects were enrolled in either one of four

introductory writing courses or one of two reading methods courses. Controls were enrolled in two education courses. Both experimental and control groups increased significantly in reading rate, vocabulary, and comprehension. In rate only, the experimentals' gain was significantly greater than the control groups' gain. The findings also indicated a varied but generally positive influence upon attitudes by the instructional programs on writing and/or reading.

JOHNS, JERRY L., & MCNAMARA, LAWRENCE P. The SQ3R study technique: a forgotten research target. *Journal of Reading*, May 1980, 23, 705-708.

Reviews the research literature on SQ3R. The authors conclude that the usefulness of SQ3R as a superior study method has not been demonstrated by the research.

SOLOMON, PAUL R. The two-point system: a method for encouraging students to read assigned material before class. *Teaching of Psychology*, April 1979, 6, 77-79.

Tests the effectiveness of two different approaches to making outside reading assignments. Subjects were 57 college students who were enrolled in either a control or experimental group. Subjects in the experimental group were given outside reading assignments under a two-point system requiring them to turn in a written anonymous critical description of what they read. Classes met four days a week over a six-week period. Both groups also wrote critiques in class once a week for five weeks with papers returned the next day to experimentals but not to controls. Data were analyzed in terms of successful critiques per class for each of the five opportunities. Experimental subjects turned in significantly more successful critiques than did controls. There were no significant differences between the two groups on exam scores or test scores. Experimental subjects also reported doing more reading before coming to class but not before the exam.

CRAIK, JUDITH M., & MARTIN, DAVID P. The effect of a presentation of how to underline a text in introductory psychology courses. *Journal of Reading*, February 1980, 23, 404-407.

Investigates the influence of participation in a 45-minute seminar on how to underline a text and a test preset condition upon a five week delayed multiple-choice test score and a discussion question eliciting response to the seminar. Subjects consisted of 77 community college students assigned to one of the two experimental groups or a control group. A main effect was significant for prior awareness of testing but not for seminar participation. Only two of the 52 seminar subjects indicated that they made any use of the seminar suggestions.

MOSS, MICHAEL J. The effect of a film aided coaching course on the rate of students' reading of texts of varying difficulty. *Journal of Research in Reading*, February 1980, 3, 11-16.

Uses a film aided course to increase reading rate of British college students and evaluates results. Twenty-four students were randomly assigned to either an experimental or control group. Subjects were matched for rate and comprehension scores based on the timed reading of two passages. Experimentals were given four three-quarter hour sessions which included films and practice exercises. Five post-tests were given, each consisting of a 400-word passage followed by comprehension questions. The passages varied in conceptual difficulty. The experimental group was significantly higher in reading rate on easier material but not on the more difficult material. No significant differences were found on comprehension scores except for one passage on which experimentals were superior.

LOVELACE, TERRY L., & MCKNIGHT, CONRAD K. The effects of reading instruction on calculus students' problem solving. *Journal of Reading*, January 1980, 23, 305-308.

Notes the effects of two teaching techniques on the ability of college students to solve calculus problems: 1) peer tutoring combined with instruction in specific mathematical reading skills, and 2) a traditional lecture method. Subjects were 37 sophomores randomly assigned to two sections of calculus. Experimental subjects were heterogeneously grouped during class on the basis of their ACT math scores and a calculus pretest administered in class. In addition to peer tutoring, experimental instruction focused on development of specific mathematics prose reading instruction through vocabulary and adjunct questions and also on reading the text for initial exposure to problem-solving techniques. Groups were compared on initial attitude toward math, calculus pretest scores, four examinations, and a departmental final examination. An analysis of covariance showed statistically significant results favoring the experimental group on final exam scores.

KERSTIENS, GENE. Yet another look at college developmental reading courses. In Gwyn Enright (Ed.) *Proceedings of the Twelfth Annual Conference of the WCRA* (Western College Reading Association), 1979. Pp. 12-18.

Investigates whether students in a college developmental reading class will appreciably reduce phonic disabilities. Subjects included 106 experimentals and 113 controls who scored between the 17th and 57th percentiles on the *New Purdue Test in English*. Instruction focused on vocabulary, rate, comprehension, and study skills. Controls were in English classes which emphasized grammar, usage, and compositional skills. Both groups experienced a mean gain from pre- to posttest scores. The differences between the two were not significant on the *California Phonics Survey* (CPS). However, it was found that CPS scores tended to be predictive of potential dropouts in the course.

COLLINS, CATHY. Speedway: the action way to speed read to increase reading rate for adults. *Reading Improvement*, Fall 1979, 16, 225-229.

Investigates the effectiveness of *Speedway: The Action Way to Read* in increasing the reading rate and efficiency of adult readers. The 63 adults who volunteered to participate in the study were divided into 4 groups (2 experimental, 2 control) in a nonequivalent control group design. Comparisons were made between reading rate, vocabulary, and comprehension scores obtained on the *Nelson-Denny Reading Tests*. Efficiency scores and an attitude measure also were obtained from experimental subjects. The major results of the analysis of variance revealed significant rate increases for one week of instruction and for one month of instruction. The increase in rate was maintained for ten months. The rate improvement had no observed effect upon vocabulary recognition or comprehension performance.

HEINEMANN, SUSAN TURK. Can job-related performance tasks be used to diagnose secretaries' reading and writing skills? *Journal of Reading*, December 1979, 23, 239-243.

Evaluates reading and writing performance of 39 successful secretaries working at a large corporation in New York City. The secretaries all had one to five years experience, at least a high school diploma, and satisfactory performance evaluations by supervisors. In addition, half had been promoted at least once. Eight job performance tasks were developed and revised after evaluation by managers,

supervisors and pilot testing. The final form assessed a secretary's ability to: 1) locate information in a company bulletin, 2) locate information in a directory, 3) compose a standard business letter in response to an inquiry, 4) use table of contents to locate information in a professional manual, 5) recognize basic spelling, punctuation and syntactic errors in a business letter, 6) list the main ideas of an article in the company newsletter, 7) list in priority the events that happened when a manager was out of town, and 8) complete a cloze test on a selection from the firm's professional manual. No more than 59% of the secretaries completed tasks 1, 2, 3 and 4 successfully; over 80% made capitalization and punctuation errors on task 5, and 51% could not distinguish main ideas from details on task 6. In many instances, the directions were not followed.

V-9 Teaching materials

HART, G. ALBERT J., & JACOBSON, MILTON D. A comparison of the Fry, Spache, and Harris-Jacobson readability formulas for primary grades. *The Reading Teacher*, May 1980, 33, 920-924.

Compares three readability formulas on six criteria: 1) representativeness of materials from which the procedures used were derived, 2) selection of predictor variables, 3) relative emphasis on word or sentence difficulty, 4) statistical procedure, 5) standard error of estimate, and 6) how well the procedures work on primary materials. The three formulas investigated were the Fry, the Spache, and the Harris-Jacobson. Results raised questions about the appropriateness of the Fry graph for measuring readability of primary materials. The other two formulas were similar in many characteristics, but the Spache tended to underestimate the difficulty level of grade two and grade three basal materials when publishers' designations were used as the criterion.

HOWE, ANN C., & EARLY, MARGARET. Reading and reasoning in ISCS classes. *Science Education*, January 1979, 63, 15-23.

Investigates the effectiveness of the Intermediate Science Curriculum Study (ISCS) with students of average and below-average reading and logical thinking ability. The program textbook readability was estimated, formal and informal reading tests administered (*Nelson Reading Test*, *Stanford Achievement Test*), and logical thinking evaluated on Piagetian tasks for the 56 junior high students involved in the study. At the close of the science program an achievement test was administered. Thirty percent of the achievement test scores were accounted for by scores on the logical thinking and informal reading tests. Results indicate that a ninth-to-tenth-grade reading level and formal operational level of reasoning are necessary to cope with the ISCS Level I Textbook. Reading grade levels for the seventh-eighth grade urban-suburban school sample ranged from 2.5 to 10.5 and level of logical thinking ranged from concrete operational to formal operational. The Level I text was judged too difficult for these subjects.

HARRISON, COLIN. Assessing the readability of school texts. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977. Pp. 65-80.

Applies several readability formulas to samples of texts from different school subjects and age groups. Texts, worksheets, and other printed materials used by teachers in English, math, science, and social studies during a one week period in ten British secondary schools were sampled. Altogether 125 passages with a total length of over 49,000 words, were analyzed using the Flesch formula. Materials

came from first- and fourth-year classes. Materials used in first-year English classes had a mean readability level of 12.4; those in fourth year classes, a mean readability of 12.9. Although there was not much variation across years, there was variation between texts. For mathematics classes, mean readability levels of materials were 11.3 and 12.7 at first and fourth years, respectively. Social studies passages showed readability levels of 13.0 for first-year materials and 14.1 for fourth-year passages. The difference between first- and fourth-year science materials was only half a year in readability. In a second aspect of the study, 23 first-year and 16 fourth-year passages were further studied. Twenty-four teachers were asked to estimate the interest level and reading level of each passage. Also 85 first year and 90 fourth-year students were asked to rate the passages and to take a cloze test based on the passages. In addition, the passages were scored using nine additional formulas. All formulas correlated .61 or higher with teachers' judgments of passage difficulty. Syllables per word correlated .68 with teacher ratings.

ELLIOTT, PEGGY GORDON, & WILES, CLYDE A. The print is a part of the problem. *School Science and Mathematics*, January 1980, 80, 37-42.

Investigates the difficulty of current math textbooks by administering a cloze test from an eight grade mathematics book to 91 certified mathematics teachers. About 27% of the teachers scored in the instructional or frustration level on the test; i.e., 55% or less correct.

BARROW, WYN. The adult reading curriculum. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977. Pp. 109-114.

Compiles a listing of 60 categories of reading materials read by 56 adults and has British children in their final year of schooling rate them from essential to non-essential. Results were then compared with findings of an adult survey done earlier in the U.S. The two studies had eight items in common: newspapers, advertisements, magazines, street names, traffic signs, TV guides, words and sentences on TV, and novels and stories. Of the 60 categories, 29 were rated essential, 29 helpful, and two not essential. Most essential items included dosage instructions, danger/warning signs, emergency procedures, traffic signs, official forms, job application forms, legal documents, first aid instructions, wage slips, and highway code. Readability measures available on six essential items showed a Reading Age range from 9.6-14 for highway code to 16 plus for danger/warning signs and first aid instructions.

SAKIEY, ELIZABETH. The commonest syllables. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 204-209.

Uses the most frequent 5,000 words from the *American Heritage* list and determines what the commonest syllables are. There were 9,358 syllables in the 5,000 words, with 3,402 distinct or different syllables appearing. About 10% of the distinct syllables occurred five times or more, and approximately one-third of these were monosyllabic words. The commonest syllable was "ing." An alphabetical list of the 322 syllables appearing at least five times is presented along with frequency of occurrence of the syllable.

MCBRIDE, FERGUS. Phonics in the teaching of reading or fonix in kontekst. In Vincent Greaney (Ed.) *Studies in Reading*. Dublin: The Educational Co., 1977. pp. 152-157.

Refers to several previous studies on phonics and also presents the results of an analysis examining the relationship between units of sound and units of writing on a list of 1909 words. The author used 48 graphemes and 41 phonemes in

analyzing the words. Frequency of occurrence of graphemes and the proportions of occurrences of the grapheme in association with various phonemes were examined. There were twice as many consonant graphemes as vowel graphemes in the words. Consonant graphemes averaged 95.4% consistency while vowel graphemes were only 69.8% consistent. About 75% of the vowel graphemes consisted of more than one letter, but this was true of only 40% of the consonant graphemes.

HEGGART, PETER. The most common content words for instructional purposes in basic literacy. *Reading Education*, Spring 1978, 3, 5-14.

Identifies in list form the 500 most commonly occurring content words in the English language. Included are the 200 most commonly occurring nouns, the 200 most commonly occurring verbs, and the 100 most commonly occurring adjectives. The words were selected from 12 widely used word lists which were chosen for their popularity, utility, and representativeness. The words were ranked in each of the three lexical groups according to their frequency of appearance in the twelve word lists and are presented in that rank order.

CARTWRIGHT, DESMOND S., & NICKERSON, C. A. An empirical thesaurus: meaning norms for ninety common words. *The Modern Language Journal*, December 1979, 63, 442-447.

Identifies the meanings commonly assigned to words and compares those with dictionary definitions. A list of 90 stimulus words was developed, including low, medium, and high concrete words. The list, divided into two sets, was presented to a total of 197 undergraduate students who were asked to write down as many meanings of the word as they could think of in 30 seconds. Meaning classes were developed for responses and frequency tabulations made. Most frequent responses were then compared with definitions given in the *Random House Dictionary*. Frequently the dictionary order and the empirical order found in the study did not agree.

WILSON, LAVISA CAM. A comparison of vocabulary used in written directions. *Reading Improvement*, Summer 1979, 16, 106-111.

Determines if the vocabulary in the written directional statements of the workbooks and worksheets of two basal series was included in the controlled vocabulary of the texts. The 1969 and 1976 editions of Ginn and the 1971 and 1976 Houghton Mifflin first grade materials were examined. Controlled vocabulary included both words given frequent repetition as well as others identified as direction and enrichment and not repeated. Extra words different from the controlled vocabulary were found in the workbooks and worksheets of every level of materials where written directions were used.

JOHNS, JERRY L. The revised Dolch list: data and rationale. *Reading World*, October 1978, 18, 22-26.

Presents a revised Dolch List of 226 words and includes percentages of those words found in four series of basal readers.

RUSH, R. TIMOTHY; MOE, ALDEN J.; & MANNING, JOHN C. A comparison of basal reader language and the oral language of beginning first grade children. *Journal of Educational Research*, September/October 1979, 73, 12-15.

Compares the oral language of beginning grade one children with the language found in grades one to four of 12 basal reader series. The language variables investigated were average sentence/utterance length, average terminable-unit (T-unit) length, number of types of different words, and number of different prepositions. Oral language samples were obtained from 30 first-grade children during a tape-recorded 20 to 25 minute interview. For textbooks, a 250-word sample was randomly obtained from the first and last thirds of the book. Findings indicated that basal reader language approximated the first-grade children's language on all variables by the first book of second grade.

KYLE, DIANE W. Changes in basal reader content: has anyone been listening? *The Elementary School Journal*, May 1978, 78, 305-312.

Does a content analysis of preprimers and sixth-grade readers of 13 reading series copyrighted between 1974 and 1977 to examine sex-role stereotyping, portrayal of minorities, and the representation of family structures. At the preprimer level adult males and females were pictured in a variety of occupations, and boys and girls were found in situations in which they did not conform to a stereotype. However, girls still appeared to be underrepresented and diverse lifestyles are not apparent. Adults most frequently conform to stereotypical sex roles; minority adults are included far less frequently than nonminority adults. Family structures still tend to be represented in a traditional manner. The findings at the sixth-grade level were similar in nature to those at the preprimer level.

BUTTERFIELD, ROBIN A.; DEMOS, ELENE S.; GRANT, GLORIA W.; MOY, PETER S.; & PEREZ, ANNA L. A multicultural analysis of a popular basal reading series in the international year of the child. *Journal of Negro Education*, Summer 1979, 48, 382-389.

Analyzes the first through third grade levels of the 1976 Houghton-Mifflin basal series for bias with regard to race, sex, class, handicap, and age. A total of 53 stories were included in the analysis. Asian Americans were underrepresented and Asians generally were stereotyped. There was an attempt to portray a positive image of Black Americans. Native Americans, Mexican Americans, and Hispanics appeared to be few in number. Whites continued to be the single dominant group with females often given a secondary role to males. There was an attempt to portray the elderly in a positive fashion.

PROSSER, MICHAEL. Cognitive analysis of physics textbooks at the tertiary or college level. *Science Education*, October 1979, 63, 677-683.

Performs an exploratory study analyzing the intellectual level of the concepts presented in the mechanics section of a college level physics textbook. Concepts were classified as concrete or formal through a Piagetian type schema. Almost 78% of the instructional concepts were classified as formal while about 17% were classified as concrete. The results suggested the need for students to be capable of using formal reasoning patterns.

KOENKE, KARL. Pictures and reading. *Journal of Reading*, April 1980, 23, 650-653.

Reviews research pertinent to the selection and use of pictures in instructional materials. Eight criteria to use in selecting pictures for use with children are cited. Additionally, eight conclusions are referred to relative to the effects of pictures in reading instruction.

V-10 Teaching-grouping

ROSENHOLTZ, SUSAN J., & WILSON, BRUCE. The effect of classroom structure on shared perceptions of ability. *American Educational Research Journal*, Spring 1980, 17, 75-82.

Surveys 15 fifth- and sixth-grade classrooms to determine the effect of particular classroom structures on perceptions of pupils' ability. Classrooms were selected to be single grade, single ethnic group, self-contained, and heterogeneously grouped with stable populations. Teachers were asked to describe their curricular materials and instructional practices on a Likert scale. Based on these responses, classrooms were identified as eight high resolution and seven low resolution classes. High resolution classes were those with low task differentiation, low student autonomy, and comparisons among pupils based on uniform criteria in instructional groupings and teacher evaluations. In low resolution classrooms, comparisons were less standardized, task structure was differentiated for ability levels, and student autonomy was high. Pupil and teacher questionnaires were used to assess perceptions of pupils' reading differences. Pupils rank ordered same gender classmates on their ability to read and also ranked themselves. Teachers were asked to either rank order their pupils on reading ability or to rate each pupil relative to other pupils as above average, average, or below average. Data were examined for degree of concurrence among classmates, between classmates and self, between classmates and teacher, and between teacher and self. High resolution classrooms showed significantly higher concurrence among classmates on the individual's reading ability than did low resolution classrooms. Self-ratings were more congruent with peer ratings in high resolution classrooms. Although not statistically significant, concurrence between teacher and classmate ratings tended to be stronger in high as compared to low resolution classes. Pupils' self-ratings more closely approximated teacher ratings in high resolution classrooms.

ZEICHNER, KENNETH M. Group membership in the elementary school classroom. *Journal of Educational Psychology*, August 1978, 70, 554-564.

Explores the relationship between two peer group variables, group membership and classroom social structure, and four student outcome variables: achievement in reading, attitudes toward school, self-concept, and school-related anxiety. Group membership was examined at four different levels—high or low attraction to group membership by the student and high or low acceptance of his membership by the group. Social structure was identified as either centralized (a large number of pupils agree on a small number of classmates in a sociometric distribution) or diffuse (a more equal distribution of sociometric choices). Subjects consisted of 621 grade five and six pupils who were given a standard sociometric questionnaire. Other measures included total reading scores on the *California Achievement Test*, a five-item sentence completion test to assess attitude toward school, the *Self-Esteem Inventory*, and the *Test Anxiety Scale for Children*. Pupils in diffuse classrooms achieved higher in reading than did pupils in centralized classrooms. Also a significant relationship was found between the acceptance dimension of group membership and reading achievement. Students with high acceptance by their peers achieved higher in reading than did low acceptance students. Pupils in centralized classrooms had more positive attitudes toward school than did pupils in diffuse classrooms. Children who had high attraction to their classroom peer groups had more positive attitudes toward school than did children with low attraction. Pupils with a high peer acceptance had more positive self-concepts than did pupils with a low acceptance.

BERNEMAN, LOUIS P., & DEXTER, CARROLL U. Does matching materials and learner characteristics really work? *Phi Delta Kappan*, June 1980, 61, 684-685.

Asks whether matching instructional materials to learner characteristics results in greater achievement, interest, or on-task behavior. Subjects were 55 fifth graders who were rated as high or low on the basis of the *Otis-Lennon Mental Ability Test*, three Piagetian tasks, the *Self-Concept and Motivation Inventory*, subsections of the *California Test of Personality*, the *Torrance Tests of Creative Thinking*, and the *Vineland Social Maturity Scale*. High pupils were those who scored at or above the sixth stanine on the Otis and on personal experience and on at least one other characteristic. Low students were those who scored at the fourth stanine or below on the Otis and on personal experience and at the fifth stanine or above on no more than one other characteristic. Subjects were divided into four groups: 1) high materials/high pupils - matched (N = 14); 2) high materials/low students - unmatched (N = 13); 3) low materials/low pupils - matched (N = 14); and 4) low materials/high pupils - unmatched (N = 14). Subjects were given two units on paraphrasing and context clues. Instruction proceeded for 45 minutes daily for 10 consecutive days. Change scores on criterion referenced pre- and posttests assessed academic achievement; an observational instrument was used to determine on-task behavior; the *Estes Attitude Scales* were used for interest. No significant differences were found between matched and unmatched groups with respect to any of the measures.

CLEMINSHAW, HELEN K., & GUIDUBALDI, JOHN. The effect of time and structure on kindergarten student social and academic performance. *The Journal of Educational Research*, November/December 1979, 73, 92-101.

Collects data concerning the relationship between academic and social functioning of kindergarten children and their daily time schedule (half day or full day). A total of 24 children were randomly selected from each of four public kindergartens. Schools were selected to represent four different combinations of structural approach and time combinations: 1) traditional, half-day everyday; 2) traditional all-day alternate day; 3) open-classroom, all-day alternate day. All schools were identified as exurban and serving lower middle class populations. Data collected consisted of the *Metropolitan Readiness Tests* (MRT); The *Animal Crackers* test, an instrument designed to evaluate motivation to achieve; the *Kohn Social Competence Scale*, a teacher rating instrument designed to assess a child's social functioning skills; and the *Parental Attitude Scale*, an instrument designed for the study to ascertain parental opinion about the program. On five of the six MRT subtests, all-day alternate day kindergarten children received higher scores than did children in the half day groups. They also performed significantly better on the social competence scale, but no differences were observed on the *Animal Crackers* instrument.

GETTINGER, MARIBETH, & WHITE, MARY ALICE. Evaluating curriculum fit with class ability. *Journal of Educational Psychology*, June 1980, 72, 338-344.

Looks at the amount of material learned and the time required in order to evaluate the degree of fit between a particular curriculum and overall class ability. Subjects consisted of two samples of fifth graders, 40 high IQ and 28 average IQ children. The high IQ group had a mean WISC-R score of 142 and a median percentile of 93 for reading on the *Iowa Test of Basic Skills*. Average IQ pupils had a mean score of 96 on the *Otis Lennon* and a median percentile of 41 in reading on the *Science Research Associates Achievement Test*. Children were to learn material from one unit in each social science textbook. One unit from each text was divided

into five instructional subunits. Pupils were asked to read from any unit (other than the specific one used in the study) for 15 minutes on each of three pretest days, keeping track of where they began and finished reading. Average lines read by the high group was 170, and by the average group, 213. Subunits were then divided into 10 parts of equal length, and one multiple-choice question for each of the 10 parts was included on a criterion test for that unit. Experimental sessions ran for 25 days in the average group and 16 days in the high group. At the beginning of each session, pupils were given an envelope containing a unit of dittoed material from one of the texts and five 10-question criterion tests. They marked beginning and ending points and then answered the questions over the subunits completed. A criterion level of 80% was set for each subunit. Pupils not reaching that level, re-read the material until achieving the 80% level. Ratios were then derived for the time to reach criterion level and for the number of subunits to criterion level. Ratios were 3:1 for the average IQ group and 5:1 for the high IQ group on their own texts. In the average group, the fastest pupils learned the same amount of material and arrived at the same level of achievement about five times as fast as the slowest ones. In the high IQ group, the fastest pupils learned one unit about three times as fast as the slowest. When using the other group's materials, for the average group the ratio between the fastest and slowest was 1:9; for the high IQ group, the range was 1:2. Correlation coefficients between the number of days needed to reach criterion on one unit and reading achievement scores were .47 and .80 for high and average IQ groups, respectively, in their own materials. With IQ, the coefficients were .16 and .66, respectively.

LAWRENCE, BRIAN F., & SPUCK, DENNIS W. Numerical procedures for grouping students for instruction. *AEDS Journal*, Summer 1979, 12, 171-181.

Evaluates several models of grouping pupils for instruction to determine which gives the most homogeneous grouping. Two of the models employed were computer-generated grouping procedures. Data for the testing of the models were based on 106 pupils in one third- and fourth-grade unit of a school utilizing Individually Guided Instruction. Data collected included the assessment of nine constructs of learning style, the number of objectives previously mastered in the reading program, and scores on the *Stanford Diagnostic Test of Reading*. The findings suggested that the computerized grouping procedure was more efficient and more effective than teacher groupings or semi-automated procedures.

SHAPSON, STAN M.; WRIGHT, EDGAR N.; EASON, GARY; & FITZGERALD, JOHN. An experimental study of the effects of class size. *American Educational Research Journal*, Spring 1980, 17, 141-152.

Investigates the effects of class size on teachers' expectations about the effects of class size; the attitudes and opinions of pupils and teachers; pupil achievement; and several classroom variables such as interaction, participation, and method of instruction. The study covered a two-year period and involved 62 classes of fourth- and fifth-grade pupils from 11 Toronto schools. In the first year, fourth-grade pupils and teachers were randomly assigned to classes of four sizes: 16, 23, 30, or 37. In the second year, the same teachers and pupils were similarly assigned to fifth-grade classes except that pupils were not in classes of 16 or 37 for both years and teachers who taught classes of 30 or 37 the first year exchanged class sizes with teachers who had taught in the two smaller sized groups. The *Toronto Classroom Observation Schedule* was designed and used to obtain information on classroom variables. The vocabulary, reading comprehension, mathematics-concepts, and mathematics-problems subtests of the *Canadian Tests of Basic Skills* were administered both years of the study. Other data collected included teacher and pupil questionnaires, the *North York Self-Concept Inventory*, and samples of writing and art. A significant class size effect in academic achievement was found

only for mathematics-concepts. Pupils in class size 16 had higher scores than did pupils in class size 30 and 37. No significant differences in other academic scores or for pupils' attitudes and self-concepts were noted.

YARBOROUGH, BETTY H., & JOHNSON, ROGER A. How meaningful are marks in promoting growth in reading? *The Reading Teacher*, March 1980, 33, 644-651.

Compares the academic achievement of pupils completing six years of elementary reading instruction in a nongraded setting without marks with those who were in a traditional, graded setting with marks. Subjects were 51 pupils who had been in the nongraded school and control pupils who had been in graded schools in the same city. All pupils had been through basal reading programs. Control subjects were divided into three groups: 1) control Group A (N = 47) was matched with experimental pupils for age, sex, race, socioeconomic status, first-year readiness scores, and second-year deviation IQ scores on the *Kuhlmann-Anderson Test*; 2) control Group B (N = 106) was matched with the experimental group by stratified random sampling; control Group C (N = 42) was drawn from seventh graders who attended the same junior high school as the experimental group and were equated. The reading comprehension, reading vocabulary, language arts, and spelling subtests of the *SRA Achievement Series: Multi Level Form E* were given in grade seven. In addition, various personality self-concept assessments were collected. No differences were found in reading and language arts achievement test scores between experimentals and controls. Controls tended to score higher than experimentals on some of the attitudinal and self-concept measures.

OLIVER, JOHN. The developmental process and outcome of an alternative school: a case study. *Journal of Negro Education*, Spring 1980, 59, 154-164.

Relates the process involved in establishing an alternative school in a black community and presents test data comparing alternative pupils with pupils in a neighborhood school. The two schools service children in K through 6. During the second year of the alternative school, both alternative and control pupils were given the vocabulary, reading, and math computation sections of the *Metropolitan Achievement Tests*. Alternative children consistently scored higher on all subtests than did controls. In grade three, the *California Achievement Test*, reading and vocabulary components, was administered. Again, alternative school pupils scored consistently higher, although the differences were not statistically significant.

V-11 Corrective and remedial instruction

LEINHARDT, GAEA. Transition rooms: promoting maturation or reducing education? *Journal of Educational Psychology*, February 1980, 72, 55-61.

Performs a study to note the effects of assigning pupils with poor academic prognoses to transition rooms prior to first grade as opposed to integrating these pupils into a regular classroom. In addition, the effect of the New Reading System (NRS), an individualized, code-emphasis approach, was investigated. Thirty-two pupils, identified as transition-eligible, and 44 pupils who were placed in the transition rooms constituted the population for the study. Pretest data consisted of scores on the *First Grade Screening Test*; posttest data were the total reading scores on the *Stanford Achievement Test*. Transition eligible pupils received reading instruction in regular classrooms in either a basal reader or NRS, depending on the class to which they were assigned. Transition room pupils all received NRS instruction. End of year tests indicated that NRS pupils in regular classrooms performed better than NRS pupils in transition rooms. Also, pupils in NRS regular classrooms performed better than did their basal reader counterparts.

PELL, SARAH-WARNER J. A communication skills project for disadvantaged Aleut, Eskimo, and Indian ninth and tenth graders. *Journal of Reading*, February 1979, 22, 404-407.

Describes a program designed to improve communications and language arts skills of Eskimo, Aleut, and Indian students. The program utilized whole group, small group, and individual instruction along with the use of tapes, film strips, and other audio-visual equipment. Dropout rate of enrollees decreased by 50% for males and 65% for females.

MORGAN, ROGER, & LYON, ELIZABETH. "Paired reading"—a preliminary report on a technique for parental tuition of reading-retarded children. *The Journal of Child Psychology and Psychiatry*, April 1979, 20, 151-160.

Evaluates the effect of a parental training program and subsequent parent-child "paired reading" sessions on the reading growth of four reading-retarded children (8 to 11 years old). In addition, baseline data were collected on helping the parents' use of positive reinforcement as their children read to them. During the 12-week program each parent (in all cases, the mother) and child worked together on paired reading for 15 minutes each evening. Pre- and posttesting revealed gains in reading accuracy and comprehension. Parental positive reinforcement of children's reading increased in all cases.

ANDERSON, BARBARA L.; LICHT, BARBARA G.; ULLMANN, RINA K.; BUCK, SYLVIA T.; & REED, WILLIAM H. Paraprofessional reading tutors: assessment of the Edmark Reading Program and flexible teaching. *American Journal of Community Psychology*, December 1979, 7, 689-699.

Assesses the effectiveness of two strategies for using undergraduate paraprofessionals as tutors for grade one pupils experiencing reading difficulties. Subjects were 36 second semester first graders from 15 classrooms. All had been referred by their teachers for special help in reading. Pretest scores on the vocabulary section of the *Gates MacGinitie Reading Test, Primary A*, averaged in the 25th percentile. The 36 undergraduate tutors were randomly assigned to one of three groups: an Edmark program reading group, a flexible reading group, and an attention-expectancy control group. Subjects were tutored after school for an average of twenty-three 40-minute sessions. The Edmark program employed a programed method of word presentation while the other group was allowed flexibility in pacing and methods for presenting words. Controls engaged in educational activities not directly related to reading. The experimental groups were taught the same 150 words and tutors in both groups reinforced correct performances. A criterion referenced test on the 150 words and an alternate form of the *Gates-MacGinitie* were administered following intervention. On the criterion referenced test, both reading groups showed significantly more improvement than did controls. However, no significant treatment effect was noted on the *Gates-MacGinitie*.

TROVATO, JOSEPH, & BUCHER, BRADLEY. Peer tutoring with or without home-based reinforcement, for reading remediation. *Journal of Applied Behavior Analysis*, Spring 1980, 13, 129-141.

Examines reading accuracy and reading comprehension for groups of children given peer tutoring, with or without an added home-based reinforcement system. The study included 69 children from grades two, three, and four, all identified as reading deficient on the basis of school performance, grades, and teacher recommendations. Children were matched in triads on the basis of level of reading retardation and three pretest reading measures: *Spache Diagnostic Reading Scale*,

oral reading and comprehension subscales, and the score on the *SRA Starter Stories*. Members of each triad were assigned randomly to three experimental groups: control (C), peer tutoring (PT), and peer tutoring plus home-based reinforcement (HB). The 23 members of the PT group received peer tutoring for about 30 minutes a day for 15 weeks; the HB group members received the same amount of peer tutoring and, in addition, points earned for accurate oral reading and comprehension could be exchanged for rewards at home. Basic reading was done in the SRA Reading Kit, 1B, and specific performance levels were established for moving from one level to the next. Change in reading ability was determined by the oral reading and comprehension subscales of the Spache and the *SRA Starter Stories*. Tutors were trained in operant-conditioning techniques. Both oral reading and comprehension were significantly improved by peer tutoring relative to the control group. The addition of home-based reinforcement doubled the increase.

BESSAI, FREDERICK, & COZAC, CON. Gains of fifth and sixth grade readers from in-school tutoring. *The Reading Teacher*, February 1980, 33, 567-570.

Evaluates the reading and spelling gains of 22 fifth- and sixth-grade pupils who received remedial instruction in a tutorial program. Pupils received the tutoring for a school year, and, additionally, had the regular classroom instruction. Immediate and delayed reading and spelling gains of the tutored group were compared to those of 22 randomly selected non-tutored pupils who were matched with the experimental group for school, grade, teacher, and sex. The *Canadian Tests of Basic Skills* were used to assess growth. Using grade equivalent scores, differences between mean gains of the samples were tested using t-tests. No significant differences between the gains of the two samples were noted. Thus, during the nine month tutoring period, the sample of remedial readers made gains equivalent to the gains of a group of normal readers. Gains continued to be equivalent during the nine-month posttutoring period.

LITCHER, JOHN H.; ROBERGE, LEONARD P.; MEYER, MARIANNE; & KARNES, LUCIA R. Alternative learning experiences for high-risk, first-grade students. *Journal of Learning Disabilities*, December 1979, 12, 686-688.

Focuses on the first-year results of an experimental program versus the standard curriculum for high-risk first grade pupils. Subjects consisted of 20 experimentals and 20 controls screened on the basis of the *Metropolitan Readiness Test* (MRT), the *Slosson Intelligence Test* (SIT), the *Slingerland Pre-reading Screening procedures* (PSP), the *WISC-R*, and visual and auditory screening devices. Groups were matched on all variables except IQ. Experimental subjects were given a carefully programmed teaching method of learning the phonetic units in the English language using a multisensory approach. The language program was given three hours a day during the school year. At the end of the year, the *Metropolitan Achievement Test* (MAT), Primary 1, and the *Gates MacGinitie Reading Test*, Primary A, were administered. Although no data are presented, the authors report that the experimental group showed significantly greater gain than did the controls on all comparisons.

GREDLER, GILBERT R. Trimodal reading instruction with disadvantaged children. *Perceptual and Motor Skills*, October 1979, 49, 707-712.

Determines the effectiveness of a programmed approach to reading instructions for 12 grade two and three pupils. Subjects were referred by teachers as having reading problems, had a mean IQ of 81.33, and tended to be from lower socioeconomic backgrounds. The word recognition subtest of the *Peabody Individual Achievement Test* was used to corroborate the identification of poor readers.

The study was carried out over a two-months time period with subjects receiving the Trimodal Instructional Program materials about three times a week. All children showed a substantial improvement on the word recognition test used as a criterion measure.

GETZ, DONALD J. Learning enhancement through visual training. *Academic Therapy*, March 1980, 15, 457-466.

Conducts research into the relationship between vision training, reading, and spelling achievement in grade two pupils identified as poor readers with visual-perceptual deficits. Poor readers were identified as children who scored in the bottom 25% on the first-grade *Cooperative Primary Test*. Pupils who met this criterion and also failed the *Bender-Gestalt Test* or an optometric screening were then eligible for inclusion in the program. From among the children thus identified in four schools, 120 were selected randomly. Half were assigned to a control group. The other half received the vision training program for one-half hour daily over a four month period for a total of 40 hours of training. Learning disabilities teachers who received a 42 hour inservice program on theory, methodology, and application of vision training instructed the pupils. All children who had completed at least 80% of the program and all controls were administered the *California Cooperative Primary Test* and the spelling and reading sections of the *Wide Range Achievement Test*. A total of 70 children completed at least 32 hours (80%) of vision training and all pre- and posttests. Experimentals showed a significantly greater growth on both reading measures than did controls. No differences were noted in spelling.

MAGGS, ALEX, & MURDOCH, ROBERT. Teaching low performers in upper primary and lower secondary to read by direct instruction methods. *Reading Education*, Autumn 1979, 4, 35-39.

Presents a program for poor readers who lack adequate decoding skills. Eight upper primary and six junior secondary students (CA 9-5 to 14-9) were involved in the program. Subjects were given the *Neale Analysis of Reading Ability* as a pre- and posttest measure of reading accuracy and comprehension. Additionally, a mastery test based on the program was given to assess accuracy and speed of reading. The program lasted for seven months. Subjects' growth in comprehension ranged from -4 months to +36 months; in accuracy on the Neale, growth ranged from -2 months to +24 months. Secondary students made greater overall growth than did the younger children.

FRY, MAURINE A.; LENNON, RANDY; & HIEBERT, ELFRIEDA. Two attempts to improve reading comprehension among fourth graders. *Reading Improvement*, Summer 1979, 16, 175-180.

Compares the effects of two methods of teaching remedial reading over a three-week period. Subjects were 89 fourth graders in a Title I school. They were randomly assigned by sex to three groups: control-verbatim (C-V), paraphrase (C-P) and syllogism (C-S). Twenty-four 250-word passages—identified for interest and representing a range of reading difficulty—were selected and 3-5 multiple-choice questions and answers were constructed for each. In the C-V condition, the correct answer for the questions was taken verbatim from the passage. In the paraphrase condition, the correct answer was a paraphrase of the statement. In the syllogism condition, words that occurred in the passage were used in constructing syllogisms. Performance on the *Iowa Test of Basic Skills* after three weeks of instruction in these three conditions indicated no significant differences among the three groups. A syllogism pre-test was administered to the C-S group and a syllogism posttest was administered to all three groups. The C-S group's score on the posttest was significantly greater than its pretest score and the scores of the other two groups.

O'CONNOR, PETER D.; STUCK, GARY B.; & WYNE, MARVIN D. Effects of a short-term intervention resource-room program on task orientation and achievement. *The Journal of Special Education*, Winter 1979, 13, 375-385.

Describes and evaluates a short-term intervention program designed to aid pupils improve in reading and math skills. Subjects were second and third graders from a primary school and sixth graders from an intermediate elementary school who were selected on the basis of three criteria: 1) IQ 89 or above on the WISC-R; 2) one or more years below grade level in reading and/or math on the *Metropolitan Achievement Test* (MAT); and 3) less than 50% time spent on task during reading or math instruction as measured by an observation scale. Children were assigned in groups of ten each to either a resource-room group or a comparison group. For three separate eight-week intervention phases, a group of experimental children attended the resource room during the morning and returned to the regular classroom after lunch. Behavioral principles were employed in the resource room, and both groups were observed during language arts or math periods using the *Walker Observation Scale*. The reading and arithmetic subtests of the MAT were administered at the end of the eight-week intervention period and again eight and 16 weeks following the return to the regular classroom. Resource-room pupils spent significantly more time on-task and achieved significantly higher reading and math scores than did comparison pupils. The advantages were maintained at the eight and 16-week follow-up testing intervals.

FREY, HERBERT. Improving the performance of poor readers through autogenic relaxation training. *The Reading Teacher*, May 1980, 33, 928-932.

Investigates the effectiveness of autogenic relaxation training as a supportive measure in improving reading achievement among disabled readers. Thirty pairs of grade three to six poor readers in Koblenz, West Germany, were matched for age, sex, IQ, anxiety test level, and reading and orthographic performance. Children were randomly assigned to either the experimental group (reading program plus autogenic training) or the control group (reading program only). Instruction for both groups occurred for one hour once a week in small groups. The autogenic training was given in the first 15 minutes of the class for the experimental group with the regular instruction done more rapidly so that the groups received the same instruction. The *DRT 4-5* (Diagnostic Reading and Spelling Test); the *KAT*, a test for anxiety; the *HANES-K5* test for neuroticism and extraversion; and the *L-P-S*, an intelligence test, were all given as pre- and posttest measures. Progress on the *DRT 4-5* was significantly better for the experimental group than for controls. In addition, experimentals showed a significant decrease over controls in scores on neuroticism and anxiety but not on extraversion scores.

HICKEY, KATHERINE A.; IMBER, STEVE C.; & RUGGIERO, ELIZABETH A. Modifying reading behavior of elementary special needs children: a cooperative resource-parent program. *Journal of Learning Disabilities*, August/September 1979, 12, 444-449.

Replicates an earlier study into the effects of behavioral management at home and school for increasing the accuracy of seatwork done by grade four children. Subjects were five children identified by their teacher as bordering on academic failure due to sporadic and inaccurate completion of independent reading seatwork assignments. The study was conducted in three phases: a baseline period and two intervention periods. For intervention 1, children were given a praise note from the teacher on days when at least 80% of the seatwork was correctly completed. During intervention 2, parents were contacted and urged to give praise in various ways if the child brought home a praise note from the teacher. All five subjects made gains during the two intervention periods. Gains were also shown on their report cards.

WILLIAMS, JOANNA P. Teaching decoding with an emphasis on phoneme analysis and phoneme blending. *Journal of Educational Psychology*, February 1980, 72, 1-15.

Describes an instructional program that teaches basic decoding skills to learning-disabled children and presents the results of a field trial evaluation. In the first part of the program, children are taught to analyze syllables and short words into phonemes and then to blend the phonemes into syllables and words. Later decoding skills were taught. In keeping with the sequence, the program is called *The ABDs of Reading* for analysis, blending, and decoding. In the evaluation, 63 children were identified on the basis of a pretest as likely to profit from the program. The pretest included assessment in auditory analysis and blending of both syllables and phonemes, letter-sound correspondences, and decoding. A comparison group of 64 learning-disabled children was also identified using the same pretest assessment program, and a group of 36 second graders in a regular classroom was also included. Second graders were found to exhibit the skills assessed. The program was used 20 minutes daily for 26 weeks. Only three of the original 17 groups completed the program in the first year. The pretest was readministered as a posttest. Instructed children showed a significant pre- to posttest gain on seven of ten subtests; the comparison group showed a significant gain on four subtests. In January of the following year, 36 children in each group were again administered the posttest. Scores of the instructed group were still higher than those of the comparison group but most differences were not significant. The second year of the program, a larger evaluation study was undertaken following procedures similar to those of the first year field study. A total of 60 experimental and 42 control children were studied. Both groups improved significantly from pretest to posttest; the experimentals on all tests, the controls, on nine out of ten. Experimentals scored significantly higher than controls on all except one subtest. On tests designed to assess transfer, experimentals performed significantly better than controls.

CARTELLI, LORA M. Reading comprehension: a matter of referents. *Academic Therapy*, March 1980, 15, 421-430.

Seeks to determine whether children perceive and use nucleus words as referent relations and notes the effect of training in paradigmatic language structures on the reading of learning-disabled children. Four classes of learning-disabled children (N = 46) participated in the study. Mean CA was about 8.7. Two classes received paradigmatic training and two classes served as controls. Intelligence test scores were used to classify children into high and low ability groups. Experimental groups received training for 19 consecutive school days for approximately two-and-one-half hours per day. The training program was based on lessons in the *Key to Learning Series*. Pretesting was done using the *P/S Oral Language Inventory* and the *Metropolitan Reading Tests, Primary II Battery (MRT)*. Immediate and delayed posttesting was done using alternate forms of the MRT and the *Paradigmatic Syntagmatic Inventory*. Experimental children performed significantly better than did controls on the MRT regardless of time of testing. Both groups performed better on the follow-up test than on the immediate posttest.

VACCA, RICHARD T. The study of holistic and subskill instructional approaches to reading comprehension. *Journal of Reading*, March 1980, 23, 512-518.

Inquires into the effects of holistic and subskill approaches to reading comprehension on the achievement and attitudes of students in a corrective program in grades seven to nine. Subjects were 34 students participating in a six-weeks' summer program who were taught by 14 graduate student tutors. The holistic program employed four basic strategies: Uninterrupted Sustained Silent Read-

ing; ReQuest, a reciprocal question approach between student and teacher; Radio Reading, a purposeful audience centered oral reading approach; and Directed-Reading-Thinking Activity. Subskill instruction centered around eight comprehension subskills. Subjects were randomly assigned to one of the two groups and then randomly assigned to tutors within each group. Following three weeks of instruction, subjects were given the *Nelson Reading Test* and the *Estes Scale for Attitudes Toward Reading*. At that time, treatment groups were switched and another three weeks of instruction (4.5 hours per week) was given. An alternate form of the Nelson was given and the Estes scale readministered. Neither comprehension approach was shown to be superior when Nelson scores were analyzed. There was some indication of a more favorable impact on attitude by the holistic treatment.

LORENZ, LINDA, & VOCKELL, EDWARD. Using the neurological impress method with learning disabled readers. *Journal of Learning Disabilities*, June/July 1979, 12, 420-422.

Examines the effectiveness of the Neurological Impress Method (in which teacher and pupil read aloud in unison) on the comprehension and word-recognition abilities of 44 second through fifth grade learning disabled students. A further purpose was to compare effectiveness of NIM with pupils who have auditory rather than visual or unidentified disabilities. Students were matched by grade level and then randomly assigned to experimental and control groups. Students in the experimental group were exposed to NIM for ten minutes each session for a total of six and one-half hours. The control group received traditional remedial reading techniques. Students with auditory disability were identified after the treatment. No significant differences were found for either comprehension or word recognition before or after treatment. This was true even when interaction with IQ, sex, grade, teacher, and school were examined. Neither were there differences found for children who had auditory disabilities.

COOK, JIMMIE E.; NOLAN, GREGORY A.; & ZANOTTI, ROBERT J. Treating auditory perception problems: the NIM helps. *Academic Therapy*, March 1980, 15, 473-481.

Explores the effects of the Neurological Impress Method (NIM) in remediating reading disabilities in learning disabled children. The 24 learning disabled children in the study were selected because they demonstrated poor performance on the *Wepman Auditory Discrimination Test* and the *Goldman-Fristoe-Woodrock Test of Auditory Discrimination*. The subjects ranged in age from 7 to 14 and all but two had *Slosson Intelligence Test* scores above 100. The 24 subjects were matched on IQ and randomly assigned to treatments. Those in the NIM treatment received 10 to 15 minutes of NIM per day; controls did not. Both were taught remedial reading in a one-to-one clinical practicum situation. Reading gain was measured with the *McCracken Standard Reading Inventory*, Form A as the pretest and Form B the posttest. Children in the NIM group made significantly greater gains in reading than the controls.

RICHARDSON, ELLIS; DiBENEDETTO, BARBARA; CHRIST, ADOLPH; PRESS, MARK; & WINSBERG, BERTRAND G. An assessment of two methods for remediating reading deficiencies. *Reading Improvement*, Summer 1978, 15, 82-95.

Assesses and compares the effects of a programed approach and a structured, eclectic approach for improving the reading skills of 72 poor readers in grades two through six. Additionally, the relationship of IQ and selected auditory and visual skills to success during remediation was studied. Children were screened for reading ability on the *Reading Recognition* and *Silent Reading Comprehension*

subtests of the *Peabody Individual Achievement Test* (PIAT). Mean WISC-R Full Scale IQ for the group was 82. Subjects were then divided into two groups matched for age and PIAT reading scores. Each group was randomly assigned to receive instruction by either the Corrective Reading Program or DISTAR (CRP/DISTAR) or the Integrated Skills Method (ISM). Subjects were taught in small groups by four teachers in 45-minute sessions over a period of about one semester. They met for 75 sessions with children averaging an attendance rate of 63 sessions. In addition to posttesting on the PIAT, children were also administered the *Gilmore Oral Reading Test*, the *Informal Word Recognition Inventory*, the *Roswell-Chall Diagnostic Reading Test*, five subtests from the *Illinois Test of Psycholinguistic Abilities*, and the *Developmental Test of Visual Motor Integration*. There were no differences noted in the gains made by the two groups on any of the reading measures. Over the five month experimental period, children showed an average grade level gain of .61 to .94 on the PIAT. The gain over normal growth to be expected was significant. At the posttesting, only the Gilmore score showed a significant relationship to IQ ($r = .37$). Auditory closure and sound blending showed a relationship to reading scores independent of IQ.

KNOTT, GLADYS P. Developing reading potential in black remedial high school freshmen. *Reading Improvement*, Winter 1979, 16, 262-269.

Explores the effect of instruction in generative-transformational grammar and context clues on the reading achievement scores of black remedial high school freshmen. Subjects consisted of 28 experimentals and 27 controls. Reading level scores ranged from fourth through sixth grade. Instruction occurred in daily 80-minute sessions for one semester. For the experimental group, training in generative transformation grammar, context clues, and reading instruction was given. The control group received training in traditional grammar and composition, vocabulary improvement, and reading instruction. The *California Reading Test*, Elementary Level, was administered as a pre- and posttest measure. Analysis of covariance using pretest scores as covariates was used to analyze the data. Experimental groups made a significant improvement in reading comprehension and total reading scores; controls did not.

RAND, YA'ACOV; TANNENBAUM, ABRAHAM J.; & FEUERSTEIN, REUVEN. Effects of instrumental enrichment on the psychoeducational development of low-functioning adolescents. *Journal of Educational Psychology*, December 1979, 71, 751-763.

Notes and compares the effects of Instrument Enrichment, an intervention program for low functioning adolescents, with a more general enrichment program which focused on direct help in school subjects. The content of the Instrumental Enrichment Program consists of 400 exercises devoid of curriculum content and concentrating on cognitive processes, problem-solving tactics, and motivational considerations. The two programs were administered to Israeli students, ages 12 to 15, who were disadvantaged, socially backward, and culturally different. The experiment was carried out over a two-year period. Tests administered included the *Thurstone Primary Mental Abilities Test* (PMA), translated into Hebrew, and a specially prepared achievement test in basic educational skills, the *Project Achievement Battery*, which consisted of 12 subtests including Reading Comprehension. Students participating in the Instrument Enrichment program in both residential and day settings showed significantly greater gains on the PMA total score. No differences were noted between the two groups in reading comprehension, although the Instrumental Enrichment program showed better results in a day-care setting than in a residential setting for reading.

JENKINS, JOSEPH R., & LARSON, KATHY. Evaluating error-correction procedures for oral reading. *The Journal of Special Education*, Summer 1979, 13, 145-156.

Attempts to evaluate the effects of six error-correction procedures on subsequent word recognition. Error-correction procedures were selected on the basis of observed use and because they were assumed to be commonly employed in remedial situations. The procedures were designated Word Supply, Sentence Repeat, End of Page Review, Word Meaning, Drill, and No correction (NC). Five junior high school students, classified as learning disabled by the school district, served as subjects. The experiment was conducted in five phases, each lasting a minimum of seven days. Subjects served as their own controls so that half of the errors made during a session received an experimental correction procedure, while the other half received a control correction procedure. Two word recognition measures were collected on error words, an isolated word measure and a word in context measure. Measures were administered one day after corrections were applied. Some form of error correction tended to be significantly superior to NC. However, many correction procedures appeared to produce rather small effects when compared to NC. Drill appeared to produce the greatest improvement in word recognition.

OTTO, SR. JEAN. A critical review of approaches to remedial reading for adolescents. *Journal of Reading*, December 1979, 23, 244-250.

Reviews experimental research of approaches to remedial reading for adolescents based on a psycholinguistic theory.

NEILL, KEITH. Turn kids on with repeated readings. *Teaching Exceptional Children*, Winter 1980, 12, 63-64.

Describes a procedure used with disabled secondary school students designed to increase reading speed and accuracy as well as interest by having the students repeatedly read the same passage. Reading time and the number of incorrectly pronounced words were graphed over trials. Twelve of the 16 students had positive reactions to the method.

JOHNSON, CHARLES D., & CRANO, WILLIAM D. Effects of spatial skills training on reading performance. *The Journal of Experimental Education*, Summer 1978, 46, 25-28.

Reports the results of a program focused on improving the reading comprehension deficits in a sample of rural children by developing spatial skills. Subjects were 70 adolescents whose average age was 17 and who were participants in a summer youth program. They tested below the sixth grade level on the *Gates-MacGinitie Reading Test* and were three to four years behind their same-aged peers on reading comprehension scores. Subjects attended reading classes for 90 minutes daily twice a week for a six week period. They were assigned randomly to one of two training situations: 1) all class time devoted to a program using materials from the Reading Attainment System (RAS), and 2) 70 minutes devoted to RAS and 20 minutes to map and graph interpretation exercises. Alternate forms of the *Gates-MacGinitie*, Survey D, were used as pre- and posttest measures of reading comprehension and vocabulary. The group drilled on map and graph skills gained significantly more than did the other group in reading.

HANSEN, CHERYL L., & EATON, MARIE D. Reading. In Norris G. Harding, Thomas C. Lovitt, Marie D. Eaton, and Cheryl L. Hansen (Eds.) *The Fourth R: Research in the Classroom*. Columbus, Ohio: Charles E. Merrill Publishing, 1978, Pp. 41-92.

Cites findings from various published research reports in a chapter presenting Applied Behavior Analysis techniques as an approach to collecting data and

improving reading problems. Examples of findings based on work with individual children with whom Applied Behavior Analysis has been utilized are given. The approach follows a carefully defined series of steps which are systematically spelled out for the reader.

GLENWICK, DAVID S., & BAROCAS, RALPH. Training impulsive children in verbal self-control by use of natural change agents. *Journal of Special Education*, Winter 1979, 13, 387-398.

Evaluates the results of a training program designed to help impulsive fifth- and sixth-graders become more reflective problem solvers. Thirty-two children were identified for the study on the basis of scores on the *Matching Familiar Figures Test* and teacher ratings on the *Classroom Adjustment Rating Scale*. Children were placed into one of four groups: 1) impulsive children whose parents and teachers were trained to instruct them; 2) impulsive children whose teachers were trained; 3) impulsive children whose parents were trained; and 4) impulsive children trained by the experimenter. An additional group of eight children served as controls. Training in the experimental groups occurred for two 50-minute sessions per week for four weeks. Four areas were assessed in pre- and posttesting: 1) cognitive and intellectual, 2) achievement, 3) classroom behavior, and 4) parents' ratings of behavior. A follow-up testing was conducted five weeks after posttesting. The achievement areas assessed were the reading, spelling, and arithmetic tests of the *Wide Range Achievement Test*. Of all measures, the most consistent gains for the experimentals over the controls occurred in reading.

MILSON, JAMES L. Evaluation of the effect of laboratory-oriented science curriculum materials on the attitudes of students with reading difficulties. *Science Education*, January 1979, 63, 9-14.

Conducts a study to determine if shifting emphasis from reading about science to involvement in science would affect the attitudes toward science of students who have reading problems. Attitudes toward Science Class, Science Laboratory, Science Teacher, School and Topic were measured with five forms of a semantic differential. Subjects were 49 ninth-grade students with IQ scores above 90 who were reading below grade level. Subjects were designated, by classes, as experimental or control. In the experimental classes, 50% of instructional time was spent in laboratory activities, 30% in reading and 20% in other activities. The control group continued with normal textbook-oriented presentations. After six weeks of instruction, the experimental group demonstrated more positive attitudes than the control group towards class, laboratory, and teachers. The author concludes that shifting emphasis from reading to laboratories may improve the attitudes toward science of poor readers.

HUTCHISON, LAVERIA F. Preferred interests as an aid in teaching functionally illiterate adults to read. *The New England Reading Association Journal*, 1979, 14(2), 20-23.

Determines whether lessons designed to emphasize preferred interests of functional illiterates improves recall and interpretation of silent reading. Subjects were two groups of 20 functionally illiterate adults, all of whom read below 4.0 grade level on the *Stanford Reading Inventory* (SRI). The experimental group's interests were determined and were emphasized. Experimental group instruction occurred twice weekly for two hour sessions over a 15-week period. Sessions were divided into supplementary reading discussions, direct-teaching, skill-application, and recreational segments. Control group instruction occurred over the same time period but in large groups and was not segmented. Both groups were posttested on

an alternate form of the SRI. Experimentals did significantly better than did controls.

CALDWELL, ROBERT M., & RIZZA, PETER J. A computer-based system of reading instruction for adult non-readers. *AEDS Journal*, Summer 1979, 12, 155-162.

Presents data on the evaluation of the Basic Skills Learning System (BSLS), a computer based program directed at improving the basic math, language, and reading skills of adults achieving above grade three but below grade eight level. Evaluation data were presented for three test sites. At one site, 24 adults who spent an average of 15 hours on the program showed a mean grade level gain of .8 year. Expected time in school for similar growth was computed to be 120 hours. At two other sites, growth of adults in the BSLS was compared with that of a comparable group. After an average instructional time of 13 hours, adults in the BSLS program showed a mean 1.12 grade level gain in reading achievement. Adults in the traditional programs showed no gains.

V-12 Teaching—bilingual

GANDARA, PATRICIA; KEOGH, BARBARA K.; & YOSHIOKA-MAXWELL, BARBARA. Predicting academic performance of Anglo and Mexican-American kindergarten children. *Psychology in the Schools*, April 1980, 17, 174-177.

Assesses the effectiveness of three readiness screening techniques for predicting first grade performance on standardized instruments of Anglo and Mexican-American children. Nineteen Anglo children, 24 Spanish-speaking Mexican-American children, and 19 English-speaking Mexican-American children were tested in September of their kindergarten year on the *Number Proficiency Test* and on a series of Piagetian-based mathematical tasks. In addition, kindergarten teachers rated children in the spring of the year on two academic (reading and arithmetic readiness) and two social adaptive dimensions. First-grade performance in reading and math was assessed with the *Comprehensive Test of Basic Skills* (CTBS). Differences between the three groups on the CTBS achievement scores were nonsignificant. Teachers' ratings were generally nonpredictive for either Mexican-American group. Within the Spanish-speaking sample there was virtually no relationship between teachers' ratings and CTBS scores. Kindergarten predictors were generally significant for the Anglo group; for the Mexican-American English-speaking children, fewer relationships were significant, but the pattern was similar to that of the Anglo group. For Spanish-speakers, however, early measures were generally nonpredictive.

HOFFMAN, STEVIE, & GREENWOOD, GORDON E. A longitudinal follow up of a preschool intervention program for Mexican-American migrant children. *Reading Improvement*, Winter 1979, 16, 326-331.

Evaluates the longitudinal effects of a preschool intervention program on K-3 Mexican-American migrant children. The preschool intervention group consisted of 20 children. They were matched for age, sex, Spanish as a home language, parental occupation and educational level, number of children in family, and housing conditions with a group of 14 comparison children. Tests administered included the *Preschool Inventory*, the *Metropolitan Readiness Test*, the *Comprehensive Test of Basic Skills* in grades two and three, and the Communication Skills subtest of the Florida Statewide Assessment in grade three. Overall results favored the intervention group in readiness and language achievement through second grade; no significant differences were found between the two groups at the end of third grade.

RAMIREZ, ARNULTO G. Teaching reading in Spanish: a study of teacher effectiveness. *Reading Improvement*, 1979, 16(4), 304-313.

Investigates the effects of teacher behaviors on reading achievement in Spanish. Twenty-seven observable teaching techniques and two student behaviors subdivided into four modalities were isolated and monitored. Subjects were 18 volunteer Spanish reading teachers in bilingual programs. Their pupils consisted of 148 children between the ages of six and 12. Mean number of pupils per class was eight. Achievement in Spanish reading was assessed by mean adjusted gains scores on the *Inter-American Prueba de Lectura*, Level II, containing 40 vocabulary and 40 comprehension items. Gains were assessed over a three-month period and served as the basis for determining effectiveness. Teachers were observed teaching two lessons, and two twenty-minute segments were taped for each lesson. The teaching behaviors related to positive growth in reading skills were teaching reading skills such as decoding, explaining grammatical rules, correcting pupil errors in decoding, having pupils read sentences orally, and use of the chalkboard. Behaviors negatively associated with pupil growth included asking questions about story details, explaining vocabulary meaning out of context, and asking pupils to read whole paragraphs without focusing on reading subskills.

MOORE, FERNIE BACA, & PARR, GERALD D. Models of bilingual education: comparisons of effectiveness. *The Elementary School Journal*, November 1978, 79, 93-97.

Compares the effectiveness of four programs of bilingual education which differed in the amount of instruction utilizing the Spanish mode: Maintenance (50% Spanish), Transitional (as needed basis), Minimal (20 minutes maximum), and a nonbilingual program (no Spanish). Subjects consisted of 130 limited English speaking and 77 English dominant children in kindergarten through grade two who were participants in a Title VII project in a rural community and who received instruction in one of the four types of classes. Measures administered included the *Tests of Basic Experience*, *Comprehensive Tests of Basic Skills*, *Primary Self Concept Inventory*, *Comprehension de Lenguaje*, *Pruebas de Lectura*, and *Cultural Attitude Scale*. Tabular data are presented for these measures and such variables as sex, SES, language dominance, teacher, aide, and school. The nonbilingual group scored significantly higher than the other groups in the reading and language tests; girls scored significantly higher than boys on reading, language, and self-concept measures.

PHILLIPS, JEFFREY N. Teaching beginning reading to non-English speaking children. *Ohio Reading Teacher*, July 1979, 13, 19-22.

Examines the problems that teachers face when teaching children to read a second language before they have learned to read their native language. Cites some relevant research.

HORNBY, PETER A. Achieving second language fluency through immersion education. *Foreign Language Annals*, April 1980, 13, 107-113.

Discusses the findings of several second language immersion programs in Canada and the U.S. Particular attention is given to a French immersion program with 18 kindergarten and grade one children in the U.S. Children in the foreign language immersion program (FLIP) and a control group were pre- and posttested on the WISC; *English Language Skills*; *Goldman-Fristoe-Woodcock Test for Auditory Discrimination*; Mathematics, Reading, and Spelling on the *Wide Range Achievement Test* (WRAT); the *Purdue Self-Concept Scale for Children*; and the

Plattsburgh School and Cultural Attitude Survey. No significant deficits were revealed at the end of one year for the FLIP group when compared with controls in the English language class. Performance WISC scores showed FLIP children outperformed those in the comparison group at the end of the year.

STOCKFELT-HOATSON, BRITT-INGRID. The teaching of bilingual infant immigrants in a Swedish town. *Linguistics: An International Review*, October 15, 1977, No. 198, 119-125.

Administers a number of tests to immigrant children in Sweden. Forty-five of the children had attended a trial, preschool program in which they were taught Swedish and 58 had attended the usual preschool classes in which they had been exposed to the teaching of Swedish. Subjects were administered the *School Maturation Test* which includes vocabulary and reading readiness sections. The trained group did better in vocabulary (.20 level) but no differences were found for reading readiness.

GROEBEL, LILLIAN. A comparison of two strategies in the teaching of reading comprehension. *English Language Teaching Journal*, July 1979, 33, 306-309.

Focuses on a comparison of two approaches to improving comprehension of 123 Israeli college students enrolled in a required English course. Additional data were collected from 49 subjects in a pilot study. A traditional approach used asked students to read and prepare a text at home with a discussion in class. In the second or experimental approach, subjects brought dictionaries to class and were then given various types of self-help activities related to the text to perform in class. In the latter approach, the teacher's role was minimal. A pre- and posttest cloze test was used to assess gain in reading comprehension. No significant differences were found between the gains of the two groups.

CLARKE, MARK A. Reading in Spanish and English: evidence from adult ESL students. *Language Learning*, June 1979, 29, 121-150.

Reviews in detail two studies on English as a second language reading performance.

V-13 Tests and testing

The studies dealing with tests and testing encompass such a diversity of research directions that it appeared appropriate to further subcategorize this section. Therefore, the reader will find sections on prediction, validity and reliability, content analysis, cloze tests, and other factors in test performance.

V-13a Factors in test performance

CONKLIN, JONATHAN E.; BURSTEIN, LEIGH; & KEESLING, J. WARD. The effects of date of testing and method of interpolation on the use of standardized test scores in the evaluation of large-scale educational programs. *Journal of Educational Measurement*, Winter 1979, 16, 239-246.

Zeroes in on two issues in the computation and use of gains on standardized test scores: 1) using estimated fall norms, and 2) using testing dates different from those used by the test publishers. Pre- and posttest school means from

matched samples of second graders who took the *Comprehensive Test of Basic Skills* in reading and math were used. A total of 385 schools were involved for reading and 361 for math. The authors compared estimated fall norms for pupils using two linear models and a dogleg procedure. The simple linear procedure provided the lowest pretest transformed scores for early testing. Pretest standard scores using an adjusted linear method were higher than those for the simple linear method. The estimated pretest standard scores based on the dogleg method were higher than means from either linear estimation procedure. Results supported the authors' notion that date of testing and method of interpolating norms can greatly affect interpretations concerning program impact.

PLAKE, BARBARA S., & HOOVER, H. D. The comparability of equal raw scores obtained from in-level and out-of-level testing: one source of the discrepancy between in-level and out-of-level grade equivalent scores. *Journal of Educational Measurement*, Winter 1979, 16, 271-278.

Asks whether identical raw scores on the same test achieved by children at different grade levels are comparable. The Vocabulary, Reading Comprehension, and Mathematics Concepts subtests of the *Iowa Tests of Basic Skills*, Level II, were included in the analysis. Children in grades four to eight were administered the test. For each subtest and at each grade level, two matched groups of children were formed by selecting one fifth grade pupil (the grade for which Level II is intended) and one from another grade who had raw scores on the subtest differing by no more than one point. The Vocabulary subtest revealed significant items by groups interactions for each out of level grades six, seven, and eight. Further analysis indicated that one item at grade six and two at grade eight contributed to the interactions. For Reading Comprehension, only one item produced an interaction that was significant. For both subtests, the percent of variance accounted for by each of the items by groups components was essentially minimal. The findings did not lend support to the notion that grade-equivalent differences are caused by differences in the applicability of items to the curriculum in respective grades.

WALKER, SUSAN M.; NOLAND, RONALD G.; & GREENSHIELDS, CHARLES M. The effect of high and low interest content on instructional levels in informal reading inventories. *Reading Improvement*, Winter 1979, 16, 297-300.

Assesses the effect of content interest on instructional levels of word recognition and comprehension in informal reading inventories. Both sex and ability differences were investigated. Subjects were 60 fifth-graders and 60 sixth-graders, who were classified into reading ability groups on the basis of scores on the *Houghton-Mifflin Reading Tests*. A total of 33 passages were developed at 11 different reading levels. One-third of the passages at each level were determined to be appealing to boys; one-third, to girls; and one third, to neither. Subjects then read a word list to determine word recognition entry grade level and then orally read the passages and answered the questions. High interest content had a greater effect on increasing comprehension instructional level than on increasing word recognition instructional level. A greater effect for high interest materials was found for boys than for girls at both grade levels. The effect was also greater for average and below average readers than for above average readers.

BERK, RONALD A. Estimation of test length for domain-referenced reading comprehension tests. *Journal of Experimental Education*, Spring 1980, 48, 188-193.

Proposes an application of sampling theory to sentence sampling for determining the lengths of tests designed to assess comprehension or readability of written discourse. Guidelines for computing sample size and for selecting the sam-

ple of sentences are provided. In addition, the article presents a table of sample sizes for a given set of conditions so that practitioners can utilize the sampling theory.

IRONSON, GAIL H., & SUBKOVIK, MICHAEL J. A comparison of several methods of assessing item bias. *Journal of Educational Measurement*, Winter 1979, 16, 209-225.

Analyzes test data from 1,691 black and 1,794 white twelfth grade students to determine the agreement among four methods of detecting item bias. The four methods were transformed difficulty, discrimination differences, chi-square, and item characteristic curve (ICC). Six subtests of the National Longitudinal Study test battery were used: vocabulary, picture-number, reading, letter groups, mathematics, and mosaic comparisons. The battery appeared to have some bias as indicated by 1) those bias methods having associated significance tests, and 2) a comparison of two white groups showing lower bias indices than the black vs. white comparison. The transformed difficulty, chi-square, and ICC methods showed statistically significant but numerically small correlation coefficients among themselves. The point biserial method did not correlate significantly with any of the other methods. The percent of agreement among the items identified as most biased by each method was moderate. The findings supported the use of the ICC and chi-square methods as better than the others.

SILVERMAN, BERNARD. Test bias and ability level testing. *Journal of School Psychology*, Fall 1979, 17, 255-259.

Assesses the effect of out-of-level or ability level testing on the overlap between scores of blacks and whites. Average test scores of grade six and eight pupils on the reading comprehension subtest of the *Iowa Test of Basic Skills* over a three-year period were compared for children in 50 all black schools and children in 50 all white schools. Children had been administered a form of the test that teachers felt pupils could read in 1975. Previously, they had been administered a test appropriate for their grade level. For both sixth and eighth grades, the black schools' mean fell a greater number of standard deviations below that of white schools' means when out-of-level testing was done than when grade level testing was done. Traditional grade level testing yielded scores that overestimated blacks but not whites. The author concluded that grade level testing with the Iowa is biased in favor of low scoring subgroups.

WEAVER, GAIL COHEN. Teaching children how to take standardized tests. *The Reading Teacher*, October 1978, 32, 116-119.

Presents a brief discussion of research related to test-wiseness.

FLEMING, DAN B., & WEBER, LARRY J. Recognizing point of view: a critical reading skill in the social studies. *Social Education*, February 1980, 44, 153-156.

Analyzes the performance of 4,150 junior and senior high school students on measures of critical reading skills. The tests, developed for American history, used a multiple-choice format in asking students to recognize an author's point of view. Subcategories of viewpoints to be identified included ethnocentric, political, racist, and sexist bias. The test format included paragraphs written in the form of a letter to the editor, newspaper articles, and excerpts from foreign and U.S. textbooks. The mean for students in grades seven and eight was 32% correct; for grades nine and ten, 32%; and for grades eleven and twelve, 34%. Chance achievement level on the items of the test designed to assess ability to recognize point of view was 33%. In particular, performance relative to recognizing sexist language and satire was poor.

V-13b Predictive studies

NURSS, JOANNE R. Assessment of readiness. In T. Gary Waller & G. E. MacKinnon (Eds.) *Reading research: advances in theory and practice*, (Vol. 1). New York: Academic Press, 1979. pp. 31-62.

Considers current readiness tests, recent research on the assessment of readiness, and some potential future directions in assessment of readiness.

NAGLE, RICHARD J. The predictive validity of the Metropolitan Readiness Tests, 1976 edition. *Educational and Psychological Measurement*, Winter 1979, 39, 1043-1045.

Examines the predictive validity of the 1976 edition of the *Metropolitan Readiness Tests* (MRT). During the first month of grade one, 176 children were given the MRT. The same group was tested in the last month of grade one on the Total Reading and Mathematics sections of the *Stanford Achievement Test*, Primary Level I. Correlation coefficients between the MRT composite score were .67 and .70 respectively for SAT Reading and Mathematics. For boys, a coefficient of .75 was found between the MRT composite score and SAT Reading; for girls, this same relationship was found to be .57. Thus the MRT composite score appeared to be a better predictor for boys than for girls.

GREENLAW, M. JEAN, & MOORE, DAVID. An analysis of current research on the Metropolitan Readiness Tests and first-grade reading achievement. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 23-28.

Locates and critically examines 15 studies published since 1969 in which the *Metropolitan Readiness Tests* (MRT) were used as a prereading assessment instrument. The studies were evaluated against seven criteria. The findings indicated that in no study was a screening and diagnostic placement function used with the MRT. In the studies reviewed, description of subjects involved was presented in widely varying detail, from skimpy to relatively complete. No study provided information describing the reading instruction given, although all were predictive studies of end of grade one achievement. The time of administering the MRT did not appear to affect substantially the predictive validity. An average correlation coefficient of .59 was found between the MRT and various end of grade one criterion measures.

COLLINS, CATHY. Criterion-referenced prereading skills test to predict first grade reading readiness and achievement. *Reading Improvement*, Fall 1979, 16, 182-189.

Compares the ability of two readiness tests to predict first grade achievement. Subjects were 233 first-grade children enrolled in 14 classrooms. Half were boys and half girls. Ninety subjects attended schools in high socio-economic neighborhoods, 87 attended schools in middle-income areas and 56 were from low-income neighborhood schools. In September of first grade, the children were given the Group Administered Form of the *PRS Prereading Skills Test* (PRS) and the *Metropolitan Readiness Tests*. In March, the pupils took the *Gates-MacGinitie Reading Tests*, Primary A (Gates). The correlation coefficient between the two readiness tests was .71. The PRS correlated with Gates Vocabulary .76, and with Gates Comprehension, .65. For the Metropolitan, these coefficients were .73 and .69. There were no significant differences in these correlation coefficients. Both the Metropolitan and the PRS predicted first grade achievement (total Gates) less well

for high socio-economic status children (.58 and .47 respectively) than for middle-class children (.72 and .77 respectively) or lower socio-economic status children (.76 and .72 respectively).

OAKLAND, THOMAS. Predictive validity of readiness tests for middle and lower socioeconomic status anglo, black, and Mexican American children. *Journal of Educational Psychology*, August 1978, 70, 574-582.

Determines the predictive validity of six readiness measures for Anglo, black, and Mexican-American grade one children. Subjects consisted of 61 middle-class and 60 lower-class Anglos, 64 middle-class and 83 lower-class blacks; and 59 middle-class and 80 lower-class Mexican Americans. During the first three months of first grade, children were given the *Metropolitan Readiness Tests* (MRT), the Language and Concepts tests from the *Tests of Basic Experiences* (TBE), the *Clymer-Barrett Prereading Battery*, the *Slosson Intelligence Test* (SIT), and the *Slosson Oral Reading Test*. Coefficients of correlation were computed between scores on each of these tests and scores on the *Metropolitan Achievement Tests* (MAT) given in second grade. The coefficients between the MRT total score and the MAT Reading and Arithmetic scores were .43 and .44, respectively, for the total sample. For middle-class Anglos, the correlation coefficients between the MRT total score and the MAT Reading and Arithmetic scores were .87 and .83, respectively. Coefficients for all other groups were lower. For lower-class blacks and lower-class Mexican Americans, the coefficients were .18 and .01, respectively, with MAT Reading. The SIT and MAT Reading correlation coefficient was .32 for the total group, and they ranged from -.07 for total blacks to .60 for total Mexican Americans. The *California Achievement Tests* (CAT) were administered in grade four and coefficients with the MRT for the total group were .48 for Reading and .38 for Math. Again, CAT grade four scores were best predicted for middle-class Anglos. The *Clymer-Barrett Prereading Battery* correlated .80 for the total Anglo group with CAT Reading and .39 and .36, respectively, for total Mexican Americans and blacks. SIT scores showed a coefficient of .66 with CAT Reading for the total group. Within each racial-ethnic group, the correlation coefficients for middle-class children tended to be higher than those for lower-class children. All readiness measures tended to predict best for Anglos and poorest for blacks.

SATZ, PAUL, & FRIEL, JANETTE. Predictive validity of an abbreviated screening battery. *Journal of Learning Disabilities*, June-July 1978, 11, 347-351.

Seeks to determine whether an abbreviated behavioral screening battery given in kindergarten could predict reading group membership at the end of grade two. Subjects comprised 28 blacks and 104 whites who entered kindergarten in 1974. The battery consisted of eight tests: Finger Localization, Berry Development Test of Visual-Motor Integration, Recognition Discrimination, Peabody Picture Vocabulary Test, Dichotic Digit Recall Test, Wepman Auditory Discrimination Test, Alphabet Recitation, and Socioeconomic Status. At the end of grade two, individual reading measures were obtained on 105 children. The data supported the use of the abbreviated screening battery as a predictor of later reading difficulty.

GLAZZARD, PEGGY. Kindergarten predictors of school achievement. *Journal of Learning Disabilities*, December 1979, 12, 689-694.

Compares the predictive efficiency of kindergarten teachers' ratings of readiness with reading readiness and reading achievement test scores over a four year span. Originally 107 kindergarteners were included in the study, but the number of subjects decreased to 62 by grade four. In May of their kindergarten year, the following measures were used: *Gates-MacGinitie Reading Tests: Readiness*

Skills; the Gates-MacGinitie Reading Test, Primary A; and the Teacher Estimate of Kindergarten Pupils' Abilities. Teachers were asked to rate pupils on a five-point scale from very low to very high in nine readiness areas. Criterion variables were the appropriate levels of the *Gates-MacGinitie Reading Test* given at the end of first, second, third, and fourth grades. At first grade level, the rank ordering of the multiple correlation coefficients of the three independent variables with vocabulary achievement placed the readiness test first ($R = .85$), the teacher rating scale second ($R = .84$), and the reading test third ($R = .61$). At grade two, for vocabulary the rankings were the rating scale ($R = .83$), readiness test ($R = .80$), and reading test ($R = .57$). For third grade vocabulary, the ranking order was the same as for grade two but the multiple correlation coefficients were slightly smaller. For fourth grade vocabulary scores, the rankings were readiness test score, teacher rating, and reading test with coefficients of .81, .73, and .55, respectively. When comprehension was the criterion, the ranking at grade one was teacher rating ($R = .77$), readiness test ($R = .75$), and reading test ($R = .57$). The readiness test and teacher rankings remained better predictors of reading comprehension scores than did the reading test through grades two, three, and four. There was considerable overlap between the scores at all grade levels.

WYCKOFF, WINNEFRED L. Relationship of students' ranks and developmental readiness scores. *Perceptual and Motor Skills*, February 1980, 50, 8-10.

Administers two screening instruments used to assess readiness of entering kindergarten children and compares the two. A total of 26 boys and 38 girls were given the *Purdue Perceptual Motor Survey* and the *Santa Clara Inventory* and were then targeted for special help on the basis of scores. The *Santa Clara Inventory* identified nine pupils with scores of 60% or less. The *Purdue Survey* identified eight of the nine. The *Purdue Survey* identified 11 more students for special help than did the *Santa Clara Inventory*, but ten of the 11 were borderline on the inventory. Thus, the two instruments targeted almost the same population as needing special attention. Rank-order coefficients between end-of-year kindergarten teacher rankings and the *Purdue Survey* ranged from .40 to .67; for the inventory, from .45 to .76.

ELIJAH, DAVID, & LEGENZA, ALICE. Teacher ratings, readiness tests, and socioeconomic status. *Reading Improvement*, Spring 1980, 17, 10-13.

Views the relationship between teacher rankings of reading readiness, scores on the *Metropolitan Readiness Tests* (MRT), and socioeconomic status for 536 beginning first graders. A mean coefficient correlation of .78 was obtained between teacher rankings of readiness and MRT scores. The mean coefficients between MRT scores and socioeconomic status and between teacher rankings and socioeconomic status were both .43.

KLEIN, ALICE E. Additional evidence of the predictive validity of the *Stanford Early School Achievement Test*. *Educational and Psychological Measurement*, Winter 1979, 39, 1053-1059.

Notes the predictive validity of the *Stanford Early School Achievement Test* (SESAT) for *Stanford Achievement Test* (SAT) scores given early in grade two. A total of 775 pupils who were given the SESAT in the first month of grade one were administered the SAT 13 months later. Correlation coefficients between the SESAT subtest scores and total battery SAT scores ranged from .375 to .723. The latter coefficient was between SESAT Word Reading and SAT total battery score, while the former was between SESAT Sentence Reading and total battery score.

KLEIN, ALICE E. Some evidence concerning the factorial validity of the screening test of academic readiness. *Educational and Psychological Measurement*, Spring 1980, 40, 239-244.

Reports the results of a factor analysis and examinations of the reliabilities of the *Screening Test of Academic Readiness* (STAR). Data were analyzed separately for each of three different groups of entering kindergarteners in a Mid-western community. The sample sizes were 1188, 972, and 968. The patterns of means for the three groups were similar, and the reliabilities were acceptable (.894 to .909, $K_{\alpha 1}$), although some subtest reliabilities were low. An earlier study by the author had found STAR to be a valid predictor of first and second grade academic success. The author concludes that STAR has some stability and general predictiveness. The factor analysis found only two factors however, thus questioning the value of the test in individualizing instruction.

SEXTON, LARRY C., & TRELOAR, JAMES H. Auditory and visual perception, sex, and academic aptitude as predictors of achievement for first-grade children. *Measurement and Evaluation in Guidance*, October 1979, 12, 140-146.

Evaluates the ability of the *Motor-Free Visual Perceptual Test* (MVPT), the *Goldman-Fristoe-Woodcock Test of Auditory Discrimination* (GFW) and the *Primary Mental Abilities K-1* (PMA) to predict academic achievement in reading, language arts and mathematics. Academic achievement was measured with the *SRA Achievement Series*, Level 1-4, Form E (SRA). The 289 participants in this study were all the first grade students attending one school district's four elementary schools. Attrition reduced the sample to 231, 133 girls and 98 boys. The PMA was administered in October of 1974 (the average score for boys was 88; for girls, 93); the MVPT, in April of 1975; the GFW, in April and May of 1975; and the SRA, in October of 1975. In predicting reading, language arts, and mathematics, the order of the predictive variables in the stepwise multiple regression was always the same: PMA first, then sex, then MVPT, and last was GFW. MVPT added significantly to the prediction of all three criterion measures, but it accounted only for an additional 7% to 10% of the variance above and beyond PMA and sex. GFW did not significantly add to the prediction.

ULLMAN, DOUGLAS G., & KAUSCH, DONALD F. Early identification of developmental strengths and weaknesses in preschool children. *Exceptional Children*, September 1979, 46, 8-13.

Investigates the ability of the *Minnesota Child Development Inventory* (MCDI) to identify developmental strengths and weaknesses in 60 nursery school children and 62 Head Start children. Subjects were between four and five years old, attending Head Start programs or nursery schools in a university community or surrounding rural areas. There were 70 Head Start pupils (28 boys and 42 girls) and 62 nursery school children (27 boys and 37 girls). Demographic data were reported. Teachers of Head Start children rated each child on eight dimensions to reflect if the child's behavior was within normal limits, borderline, or represented a marked developmental lag. As expected, the MCDI identified more problems in the high risk Head Start group and, for five of the eight developmental areas, significantly predicted subsequent Head Start teacher evaluations of each child. Also, modifying the MCDI cut off score reduced substantially the false negatives. Thus, the MCDI was found to show some promise as a useful developmental screening instrument for lower socioeconomic, preschool age children. Implications for remedial planning were addressed.

LEWIS, ANN. The early identification of children with learning difficulties. *Journal of Learning Disabilities*, February 1980, 13, 102-108.

Evaluates the ability of the *English Picture Vocabulary Test* (EPVT) and the *Croydon Checklist* to identify those children entering Infants' School (at about age 5) who will obtain low scores on a standardized reading test when they have completed Infants' School (age 7 plus). Reading was measured by *Young's Group Reading Test*. The EPVT and the Croydon (teacher ratings of speech, perceptual/motor skills, emotional/social skills and responses to learning) were administered to all 86 students entering the first year of one West Midlands Infants' School. Two years later, the reading test was administered. The EPVT and the Croydon were not found to be acceptable predictors.

POPE, JEAN; LEHRER, BARRY; & STEVENS, JAMES. A multiphasic reading screening procedure. *Journal of Learning Disabilities*, February 1980, 13, 98-102.

Attempts to validate a diagnostic screening procedure for use with average or above IQ kindergarten pupils who might be expected to have reading difficulties in school. The battery of tests, termed the *Kindergarten Reading Screening Battery* (KRSB), consisted of the following measures: 1) the Reading subtest of the *Wide Range Achievement Test* (WRAT); 2) the *Teacher Checklist*, an evaluation of expressive language, concentration and attention, perceptual-motor and motor coordination skills, and control of behavior; 3) the *Slosson Intelligence Test* (SIT); and 4) the *Meeting Street School Screening Test*, an additional assessment of language, fine motor coordination, and visual-motor coordination skills. The KRSB was administered to 267 girls and 278 boys in kindergarten. Of this total, 31 were identified as high risk, and 105 as low risk. An additional 15 subjects were referred by teachers as high risk. Subjects were then administered the *Woodcock Reading Mastery Test* (WRMT) in fifth grade. The correlation coefficient between the WRAT and the total WRMT score was .50. The Teacher Checklist did not statistically enhance the differentiation of the high- and low-risk groups. A significant difference was found between the two groups on the WRMT subtest scores.

WHITE, MARGARET; BATINI, P.; SATZ, P.; & FRIEL, JANETTE. Predictive validity of a screening battery for children 'at risk' for reading failure. *British Journal of Educational Psychology*, 1979, 49 (Part 2), 132-137.

Reports the results of a longitudinal study conducted in Perth, Australia. A battery of tests developed to predict future reading achievement of American children was administered in February, 1975, to 407 white boys entering Year 1 in 23 Perth Catholic schools. Criterion tests were administered to the 332 students completing Year 3 (attrition = 18%) in November of 1977. The predictive tests were: 1) alphabet recitation test, 2) the *Peabody Picture Vocabulary Test* (PPVT), 3) a *Recognition-Discrimination* (visual perceptual) test, 4) five measures of finger localisation, 5) the *Developmental Test of Visual-Motor Integration*, 6) a dichotic listening task and 7) a shortened version of the *Wepman Auditory Discrimination Test*. Measures of socio-economic status (SES) were also gathered. Criterion testing three years later consisted of the *Neale Analysis of Reading* (comprehension) and the *St. Lucia Reading Test* (word recognition). On the basis of the criterion comprehension test, four groups of readers were discriminated: severely disabled, mildly disabled, average, and superior. The battery correctly classified (predicted) 86% of the severely disabled readers, 75% of the mildly disabled, 52% of the average, and 75% of the superior. These predictions parallel the predictions made in Satz's study of American children. The four best predictors of comprehension were the PPVT, the recognition-discrimination test, alphabet recitation, and SES. No correlation coefficients were reported.

WEAVER, PHYLLIS A., & ROSNER, JEROME. Relationships between visual and auditory perceptual skills and comprehension in students with learning disabilities. *Journal of Learning Disabilities*, November 1979, 12, 617-621.

Reports a correlational study that examined the relations between visual and auditory-perceptual skills and comprehension. Scores of 25 learning disabled students, ages 9 to 13, were compared on five tests: a visual-perceptual test (*Coloured Progressive Matrices*) (CPM); an auditory-perceptual test (*Auditory Motor Placement*) (AMP); a listening and reading comprehension test (*Durrell Listening-Reading Series*); and a word recognition test (Word Recognition subtest, *Diagnostic Reading Scales*). Subjects were selected from a non-graded school for children with learning disabilities. They had average intelligence and their mean age was 10-8. On the *California Achievement Test*, their reading scores ranged from 1.0 to 3.5. CPM correlated with reading .21, with listening .74, and with word recognition -.16. AMP correlated with reading .45, with listening .16, and with word recognition .37. Word recognition correlated with reading .87. The correlation coefficient between reading and listening was not reported. When the authors partialled out word recognition, the coefficients of correlation between reading and AMP increased from .45 to .66.

STEINBAUER, ERIKA, & HELLER, MARC S. The Boehm Test of Basic Concepts as a predictor of academic achievement in grades 2 and 3. *Psychology in the Schools*, July 1978, 15, 357-360.

Follows 94 children from kindergarten to the end of grade two ($N = 43$) and grade three ($N = 51$) to assess the predictive validity of the *Boehm Test of Basic Concepts* (BTBC) for later academic success. Scores on the BTBC were correlated with later scores on the Stanford Achievement Test (SAT). The BTBC correlated .56 and .47 with Paragraph Meaning on the SAT at the ends of grade two and three, respectively. With Word Study Skills the coefficients were .48 and .47, respectively. Respective correlation coefficients with Word Meaning were -.10 and .28. Correlation coefficients with other SAT scores are also given.

STEDMAN, JAMES M.; CORTNER, ROBERT H.; LAWLIS, G. FRANK; & ACHTERBERG, GLORIA. Relationships between WISC-R factors, *Wide Range Achievement Test* scores, and visual-motor maturation in children referred for psychological evaluation. *Journal of Consulting and Clinical Psychology*, October 1978, 46, 869-872.

Seeks to investigate relationships between the WISC-R factors of Verbal Comprehension (VC), Perceptual Organization (PO), and Freedom from Distractibility (FD); *Wide Range Achievement Test Scores* (WRAT); and visual-motor maturation as reflected on the *Bender-Gestalt*. Subjects were 106 children, ages 6 to 13, who had been referred for psychological evaluation for a variety of school-related problems. Of the 106 subjects, 90% had Spanish surnames and some may have been bilingual. Results indicated coefficients between the VC and WRAT Reading, Spelling, and Arithmetic were .44, .38, and .20, respectively. The coefficient between PO and WRAT Reading, while significant, was only .19. Correlation coefficients between the WISC-R factors and the *Bender-Gestalt* ranged from .08 to .44.

ADAMS, B. BARBARA, & OLLILA, LLOYD O. The relationships of language concepts, auditory comprehension, visual perception, and spatial relations as predictors to reading achievement in first grade. *The Alberta Journal of Educational Research*, December 1979, 25, 248-258.

Evaluates the predictive validity and reliability of a test the authors developed to measure reading readiness. Their test, called the *Experimental Readiness Test* (ERR), has four subtests, each having 30 items: Basic Language Concepts (a vocabulary test), Predicting Outcomes (of stories), Spatial Relations and Auditory Reception (answering "yes" or "no" to true and false statements). This test and the *Canadian Readiness Test* were administered in September to 115 first graders. A reading comprehension test, The Bond-Balow-Hoyt *New Developmental Reading Test*, was administered in the last two weeks of February. KR₂₀ reliabilities for ERR subtests ranged for .51 to .81, and the reliability of the total test was .88. The correlation coefficient between reading achievement and total ERR score was not reported. The Learning Rate subtest of the *Canadian Readiness Test* and Spatial Relations Concepts of the ERR were highly significant predictors of reading achievement on all three subtests of the Bond-Balow-Hoyt. There were no significant differences between boys and girls on ERR. On the *Canadian Readiness Test*, however, the girls were superior on two of the subtests.

WATSON, ALAN J. Multiple seriation and learning to read. *The Australian Journal of Education*, June 1979, 23, 171-180.

Examines the relationship between seriation and reading at grade four. Subjects were 100 fourth graders from three suburban Sydney schools. The Reading Comprehension section of the *Progressive Achievement Test* and Word Recognition from the *St. Lucia Graded Word Recognition Test* were administered along with the *Peabody Picture Vocabulary Test* and a Piagetian type seriation task. The coefficients between the seriation task and the two reading measures ranged between .43 and .58. Findings also suggested that the relationship was relatively independent of intelligence.

CHEEK, MARTHA C. A correlation of oral reading, spelling, and graphemic option knowledge. *Reading World*, May 1979, 18, 384-388.

Presents correlation coefficients between scores on three tests: the *Gilmore Oral Reading Test*, Form C; a dictated spelling test of 100 words selected from the *New Iowa Spelling Scale*, and the *Graphemic Options Test* (unpublished). Subjects taking each of these three tests were 139 sixth graders and 110 eighth graders. Approximately half of each group was black, half was white. Separate correlation coefficients were reported for grades and race. The correlation coefficients reported ranged from .61 to .87 for spelling and oral reading accuracy on the *Gilmore*, .55 to .69 for *Graphemic Options* and the *Gilmore*, and .69 to .79 for *Graphemic Options* and Spelling. The author concluded that the teaching of these three skills in language arts must be coordinated.

GEIS, LYNNA, & CARNEY, MYRNA L. Reading ability, college grades, and attrition: a two-year study. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 163-167.

Presents the initial year and fifth semester results of a planned four year study of the individual and multiple predictive power of the *Nelson-Denny Reading Test*, Form C, and *The New Student Survey* (NSS) upon GPA of 490 college freshmen. The NSS consists of a self assessment instrument treating areas of writing compositions, research papers, reading skills, vocabulary, and degree expectation. Two tables of results by nine majors are given. Single and multiple correlations were greater during the freshman year and ranged from .24 to .82. Fifth semester R's ranged from .17 for engineering majors to a .92 for physical science majors.

V-13c Cloze testing

DAVIES, PETER, & VINCENT, DENIS. The development of cloze tests. In John Gilliland (Ed.) *Reading: research and classroom practice*. (Proceedings of the thirteenth annual course and conference of the United Kingdom Reading Association), 1977. Pp. 244-255.

Carries out three studies in developing cloze tests. In the first study, 16 prose passages of about 100 words in length were designed to reflect 16 points on Fry's Readability Graph. The passages were then converted into cloze tests by randomly deleting five structure words and five content words. They were then printed and placed in order of readability in two booklets, each containing eight tests. The tests were then given to 164 first-, 236 second-, 199 third-, and 118 fourth-year children. For each of the first three groups, the correlation coefficient between test difficulty and number of syllables per 100 words was $-.70$, and between test difficulty and number of sentences per 100 words, $.80$. For fourth year pupils, the values were $-.60$ and $.60$, respectively. Ten versions of two of the original passages were then prepared by deleting a different set of words in each version. Each version was then given to a random sample of fourth-year junior pupils in seven schools. The mean correct response varied across versions of the same passage. The cloze tests were then analyzed against three criteria: 1) frequency of the words on a word list, 2) grammatical function of the words, and 3) strength or quality of the processes which appeared to cue each word. All three means of grouping cloze items appeared to explain some differences in the difficulty of items. In another study, the results suggested that sentence length and number of syllables were only a symptom of textual difficulty and not a cause.

ENTIN, EILEEN B., & KLARE, GEORGE R. Differential relationships of two versions of cloze tests to vocabulary and reading comprehension. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 68-71.

Conducts two experiments to study the relationships between cloze scores and measures of comprehension and vocabulary. In the first of the two studies, 48 college freshmen were given a standard cloze form and 57 were presented with a dashed line cloze form. All subjects did seven cloze passages. In the second study, 61 college freshmen did two standard and two dashed line cloze tests. Subjects' scores were compared with comprehension and vocabulary scores on the *Nelson-Denny Reading Test*. The seven cloze form 200-word passages used were taken from an alternate form of the Nelson-Denny. Dashed line cloze forms had as many dashed underlines as letters in each deleted word. In the first study, a correlation coefficient of $.56$ was found with vocabulary and $.62$ with comprehension for subjects who took the solid line test; for subjects who took the dashed line test, coefficients were $.60$ and $.48$ with vocabulary and comprehension, respectively. In the second experiment, coefficients between vocabulary and comprehension, respectively, were $.39$ and $.42$ for the solid line cloze and $.58$ and $.50$ for the dashed line cloze. The results suggested that for the solid line cloze, comprehension is a better predictor variable, but for the dashed line cloze, vocabulary is the better predictor.

JONES, MARGARET B., & PIKULSKI, JOHN J. Cloze for the content area teacher. *Reading World*, March 1979, 18, 253-258

Studies the relationship between cloze tests for science and social studies areas, informal reading inventories (IRI) for the two areas, and standardized tests. Subjects were 30 grade six pupils who scored at least 3.5 on the reading section of

the *Iowa Test of Basic Skills*. For each content area, 50-item cloze tests were constructed from selections taken from textbooks designed for sixth grade. IRI materials were constructed from the same materials used to build the cloze passages and were divided into oral and silent reading sections with ten comprehension questions for each selection. Pearson-product-moment correlation coefficients were calculated to determine the relationships among the various measures. All coefficients were significant beyond the .005 level. The coefficients between the Iowa and the science and social studies IRI's and the science and social studies cloze tests were .72, .60, .68, and .76, respectively.

BRADLEY, JOHN M., & MEREDITH, KEITH. The reliability of the Maze procedure for intermediate and junior high school students. In P. David Pearson & Jane Hansen (Eds.) *Reading: disciplined inquiry in process and practice. Twenty-seventh Yearbook of the National Reading Conference*, 1978. Pp. 185-189.

Assesses the usefulness of a maze testing procedure with 335 fourth, sixth, and eighth grade students. Materials consisted of two different passages for use at each grade level. The six passages, each consisting of 300 words, were prepared as two 40-item maze tests and two 40-item cloze tests for each grade level. Maze test scores were considerably higher than cloze test scores, and the maze test did not discriminate among subjects. Maze procedures tended to place subjects at the independent level while cloze procedures tended to result in placement at the instructional or frustration level. The authors stated that the maze procedure appeared to be inappropriate for use with intermediate and junior high school children.

LAMB, POSE. Cloze procedure as a comprehension measure in grade two. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979. Pp. 100-103.

Studies 1) the relationship between scores on three types of cloze passages and scores on a standardized reading achievement test and 2) the relationship between pupils' performance on a cloze passage from a basal reader and the assigned level of the reader. The 109 grade two pupils in the study were given three sequential passages from Level 8 of a basal text. In the first passage, only function or structure words were deleted; in the second, verbs were deleted; and in the third, a standard every-fifth-word deletion pattern was used. Selections each included 20 blanks and were approximately 100 words in length. Teachers administered Level 8 of the *Iowa Test of Basic Skills* (ITBS). Tests were scored for both exact words and synonyms. Coefficients above .90 were found for the two scoring procedures on all three cloze passages. Scores ranged from 55% to 65% correct. Pearson product moment coefficients were .479, .585, and .595 between the Vocabulary subtest of the ITBS and the cloze function word, verbs, and every fifth word tests, respectively. Similar coefficients were noted between the ITBS Word Analysis and Comprehension subtests and the various cloze tests.

BALDAUF, RICHARD B.; DAWSON, ROBERT L. T.; PRIOR, JOHN; & PROPST, IVAN K., JR. Can matching cloze be used with secondary ESL pupils? *Journal of Reading*, February 1980, 23, 435-440.

Reports on investigations of the reliability and validity of five item matching cloze tests when administered to 28 and 62 grade seven and eight English as a Second Language pupils. Reliabilities reported reached .90+, and validity coefficients for the matching cloze with the *Graded Test of Reading Experience* was .80+, both considered quite acceptable. The second study revealed structure words are as appropriate as content words as matching cloze targets.

ALLEN, WALTER P. Correlation of first day cloze with final grade in literature for foreign students. *Research in the Teaching of Reading*, February 1980, 14, 61-66.

Correlates cloze test scores given to sophomore level foreign students with final grades in a literature course. A total of 384 students were tested. Ten different cloze tests, each constructed from passages of about 400 words, were used. Cloze tests were administered at the first meeting of the class. For the 14 classes involved, coefficients of correlation ranged from .04 to .78 between cloze test scores and final grade. For all classes combined, the coefficient was .51.

RYE, JAMES. A closer look at 'cloze'. *English in Education*, Autumn 1979, 13, 44-54.

Explores some implications of cloze as a teaching tool. Six fifth-year boys in a British secondary school were administered Stage 4 of the Edinburgh Reading Test and divided into two groups. Each group was then given a tape recorder and a 41 deletion cloze passage. They were asked to fill in the word and give the reasons for their choice. Both groups were given the same selection, but in one group the cloze blanks were done on an every fifth word basis, while in the other group the deletions were made on a grammatical basis. The procedure was reversed for the groups with a different 40-item passage several days later. The mean number of seconds taken on every fifth word deletions was 19; for grammatical deletions, the mean time in seconds was 28. The percentage of responses matching the author's words was 50.45 for every fifth word and 55.5 for grammatical deletions. In listening to the tapes, the author noted the greater success of content deletions in causing students to think.

BALDAUF, RICHARD B., JR., & PROPST, IVAN K., JR. Preliminary evidence regarding the validity of a modified cloze procedure for lower elementary ESL students. *Educational and Psychological Measurement*, Summer 1978, 38, 451-455.

Develops a modified cloze procedure for assessing reading comprehension skills of 95 grade two to five ESL children in the Mariana Islands. The *Gates-MacGinitie Reading Test*, Primary A, the *Marianas English Achievement Test* (MEAT), and a modified 25-item cloze test requiring recognition but not production of words were all administered. Results showed a substantial correlation between the modified cloze procedure scores and the vocabulary and reading subtest scores of the Gates-MacGinitie and the MEAT.

V-13d Content analysis of tests

GALEN, NANCY. Informal reading inventories for adults: an analysis. *Lifelong Learning: The Adult Years*, March 1980, 3, 10-14.

Presents an analysis of four informal reading inventories (IRIs) developed specifically for adults. The four include the *Advanced Informal Reading Diagnostic Packet* (AIRDP), the *Adult Informal Reading Test* (AIRT), *BRIMS: A Basic Reading Inventory for Mature Students*, and *An Informal Reading Inventory for use by teachers of Adult Basic Education* (ABE). Areas on which the IRIs are reviewed include word lists, comprehension questions, readability, and scoring and evaluation guidelines. The AIRDP, AIRT, and BRIMS inventories use high frequency words while the ABE does not indicate where the words used come from. The ABE also has some sex bias in writing, while the other instruments show no noticeable sex bias. Average length of passages for the four IRIs ranges from 72.17 words on the ABE to 157.23 words on the BRIMS. Neither the BRIMS nor the ABE provide for

a purpose in reading passages, although the BRIMS provides space for the teacher to write in a purpose. Comprehension questions average eight to ten per passage for the AIRDP and three to five for the others. AIRT comprehension is totally fact oriented; inference/evaluation question proportions are 42%, 35%, and 14% for the AIRDP, BRIMS, and ABE, respectively. Readability estimates of a number of the passages differ substantially from the levels stated by the authors or publishers. All four instruments contain scoring guides, including marking systems for oral errors. In addition, each IRI provides criteria for determining a student's three reading levels.

PLAKE, BARBARA S.; HOOVER, H. D.; & LOYD, BRENDA H. An investigation of the *Iowa Tests of Basic Skills* for sex bias: a developmental look. *Psychology in the Schools*, January 1980, 17, 47-52.

Analyzes results of third-, sixth-, and eighth-grade pupils on the *Iowa Tests of Basic Skills* (ITBS) for sex bias. Data were obtained from 48 school systems with 10 boys and 10 girls randomly selected in each of the three grades. At each grade level, the percent of boys and girls obtaining the correct answer for each item in the Vocabulary, Reading Comprehension, Mathematics Concepts, and Mathematics Problem Solving subtests was calculated. Items by sex interactions were all statistically significant (.01 level) for each of the subtests at each grade level. In the Reading Comprehension subtest, the number of items identified as contributing to the items by sex interaction were 2, 4, and 8 at grades 3, 6, and 8, respectively. Similar results were obtained for the other subtests. Further analyses viewed skill classification, sex-stereo-typicalness, and item location for those items contributing to the statistical significance. No trends for these factors were found. The results suggested that the ITBS subtests do not function differentially for male and female pupils.

V-13e Test reliability and validity

HILL, WALTER. BCT: Reading - Problems in interpretation and implication. *The English Record*, Fall 1979, 29, 12-15.

Places the Basic Competence Tests in Reading in a more meaningful perspective. Legislative roots, administrative purposes and the nature of the tests were reviewed. Notable weaknesses of the tests as instruments of reading measurement were noted. Suggestions for improvements in the tests were given to identify pupils that are functional as well as basic illiterates.

LANGER, PHILIP; CARLINE, DONALD S.; & CHURCH, ROSEINE. A note on the Wyoming standards of excellence for reading. *Reading Psychology*, Spring 1980, 1, 111-114.

Describes the first phase of an attempt to validate the *Wyoming Standards of Excellence for Reading*. In the spring of 1979, copies of the Standards were sent to all superintendents in the state as well as to all educators who had previously requested a copy (N = 300). Respondents were asked to rate on a five-point scale the extent to which each item was being implemented. A total of 111 questionnaires were returned. Averages for each of the four major areas on the Standards were between 3.2 and 3.6. A factor analysis of the area item loadings was done and indicated a reasonable degree of internal consistency within each area. Intercorrelation coefficients across areas ranged from .374 to .585. The authors concluded that the current standards seem a reliable and internally consistent set of guidelines with respect to current practices in Wyoming.

CERVERO, RONALD M. Does the Texas adult performance level test measure functional competence? *Adult Education*, Spring 1980, 30, 152-165.

Proposes to determine whether the *Adult Performance Level (APL)* test measures functional competence. The national survey data collected for the University of Texas APL project ($N = 1537$) were reanalyzed to determine the concurrent and construct validity and the reliability of the APL test. The 67 items of the APL test were divided into four skill areas: reading, problem solving, computation, and writing. The same items were also divided into five content area scores: occupational knowledge, consumer economics, health, community resources, and government and law. Correlation coefficients were computed between the total test score and three indicators of success: educational level, family income, and chief wage earner's occupational status. These were found to be .5550, .3974, and .3144, respectively. These coefficients were not substantially different from those reported in an earlier study. Construct validity of the APL test was assessed by a factor analysis technique. It was found to measure only the three distinct traits of verbal ability, writing skills, and computation skills. Total test reliability was determined to be .94. The test does not appear to have content or construct validity. The factor analysis demonstrated that it is a reasonably valid measure of verbal ability, writing, and computation but not a measure of functional competence.

GANOPOLE, SELINA J. The fundamental reading competencies test. *Journal of Educational Measurement*, Spring 1980, 17, 71-74.

Describes the *Fundamental Reading Competencies Test (FRCT)*, its development, purpose, and validation. The test is a criterion-referenced instrument consisting of six ten-item subtests and one five-item subtest. It is designed to assess high school students' proficiency in functional reading skills and includes such areas as comprehending main ideas in news articles, comprehending safety warnings, graphic illustrations, technical documents, consumer appeals in advertisements, information presented on forms and applications, and using common reference tools. Test-retest reliability for subtests ranged from .46 to .67 on Form A and .50 to .71 on Form B; for the total test, reliability coefficients of .83 and .85 were obtained on Forms A and B, respectively. Validity of the FRCT was established by congruency checks performed by reviewers who examined test items against a set of specifications. Congruency estimates exceeded 90%. In addition, the domain-selection validity was determined through a review of the literature, consultation with groups of educators, and the use of questionnaires sent to parents, teachers, students, and members of the business community.

PIKULSKI, JOHN J., & SHANAHAN, TIMOTHY. A comparison of various approaches to evaluating phonics. *The Reading Teacher*, March 1980, 33, 692-702.

Reviews the literature related to three dimensions along which phonics tests vary: 1) group versus individual administration, 2) production versus recognition response, and 3) the stimuli or materials used to evaluate phonics. On the question of group versus individual administration, only one published report was found. Therefore, the authors conducted an exploratory study with remedial/corrective students, ages seven-fifteen. Subjects were presented with an individually administered and a group administered author-developed phonics instrument. A Pearson product-moment coefficient of .001 was obtained on the scores between the two forms. Sizable differences in performance on the two tests existed in correct identification of vowel sounds. The authors found only minimal evidence to suggest that production tasks are more difficult than recognition tasks. Rather, they felt that the variety of formats found for both tasks varied in their level of challenge. Evidence related to the stimuli or materials used to assess phonics skills was also skimpy. The authors concluded that the systematic study of the way in which phonics skills are evaluated is sorely needed.

DURAN, ELVA, & WAUGH, RUTH. Problems in assessing phonic knowledge. *Reading Improvement*, 1979, 16(4), 284-287.

Compares three methods of testing the phonics ability of 108 second grade students. The test items used in this study were selected from the *Phonics Mastery Test*, *The El Paso Phonics Survey*, and a scope and sequence test developed by a local school district. Twenty-four phonic elements were tested. The *El Paso* is administered individually, the other two, in groups. On the *El Paso*, children must pronounce the elements in conjunction with other units, while on the *Phonics Mastery Test*, the elements are spelled. On the scope and sequence test, a multiple choice paradigm is used. The intercorrelations among the three tests ranged from .22 to .50. There also was little consistency of agreement among the three tests for evaluating specific elements. The results are discussed and two solutions are suggested.

KENDALL, JANET ROSS; MASON, JANA M.; & HUNTER, WILLIAM. Which comprehension? Artifacts in the measurement of reading comprehension. *Journal of Educational Research*, March/April 1980, 73, 233-236.

Examines variations in reading comprehension scores resulting from four different ways of assessing comprehension. Subjects consisted of 164 grade five pupils from four elementary schools in one Canadian city. Schools were selected only if the average raw scores for fifth graders on the *Metropolitan Achievement Test* Comprehension subtest fell between 5.2 and 5.7. Using four reading passages from the McCall-Crabbs *Standard Test: Lessons in Reading*, four comprehension tasks were constructed: multiple choice, recall, cloze, and maze. The passages consisted of one in fairy tale form, one in descriptive story form, and two expository. Each pupil read the four passages, each one under a different comprehension condition. Maze and multiple-choice tasks were consistently easier than recall and cloze. Although the four passages were controlled for readability, performance varied significantly among them. The fairy tale was always the easiest passage, and the two expository passages tended to be the most difficult. When subjects were divided into three groups on the basis of reading ability, better readers obtained higher scores on the tasks. The authors point out the implications for using more varied comprehension measures in evaluating comprehension.

KLEIN, ALICE E. Further evidence on the redundancy of the *Stanford Achievement Test*. *Educational and Psychological Measurement*, Winter 1979, 39, 1061-1065.

Utilizes a factor analysis of subtest scores from the *Stanford Achievement Test* (SAT), Primary Battery I, to investigate whether the three subtotal scores were independent measures. The SAT was administered to 927 beginning grade two pupils in one suburban school district. The seven subtest scores were then factor analyzed. Intercorrelation coefficients among the seven subtests ranged from .493 to .872. Results of the factor analysis indicated that there was one common factor. There appeared to be no evidence to support the differential utility of the seven subtest or three subtotal scores.

TULLOCK-RHODY, REGINA, & ALEXANDER, J. ESTILL. A scale for assessing attitudes toward reading in secondary schools. *Journal of Reading*, April 1980, 23, 609-614.

Presents the *Rhody Secondary Reading Attitude Assessment*, a 25 item summated (Likert type) rating scale, and explains the steps employed in its development. The instrument was generated from recorded interview responses of 142 pupils, grades seven through twelve, piloted with 204 secondary pupils, and the

revised instrument was administered to 349 pupils in two urban and two rural secondary schools. A validity check of results with teacher ($N = 12$) ratings of pupils with most positive and most negative attitudes toward reading ($N = 60$ each category) produced a t of 4.16 ($p < .001$). Test-retest reliability was determined to be .84.

SUMMERS, EDWARD G. The validity of the *Estes Reading Attitude Scale* for intermediate grades. *The Alberta Journal of Educational Research*, March 1980, 26, 36-43.

Examines the reliability and validity of the *Estes Reading Attitude Scale* (ERAS). Subjects involved were 1,403 intermediate pupils, grade five, six, and seven, with mean June performances on the *Metropolitan Achievement Test - Reading* (MAT) equivalent to percentiles of 58, 50, and 50, respectively. Internal consistency reliability coefficients for the three grades were .86, .87, and .89. Convergent (criterion validity) was ascertained with two informal instruments developed from the Dulin and Chester format, the *Student Reading Rating Scale* (SRRS), a Likert-type self comparison with peers, and the *Teacher Reading Rating Scale*. Coefficients of correlations of the ERAS with the SRRS ranged from .36 to .39. The ERAS coefficient with the MAT-R vocabulary score was .33, and .37 with the MAT-R comprehension score.

TUINMAN, J. JAAP; KINZER, CHARLES K.; & MUHTADI, NEAL A. A short-cut to testing passage comprehension. *Reading Horizons*, Winter 1980, 20, 103-105.

Examines the feasibility of providing secondary teachers with a quick, accurate assessment of passage comprehension by using the *Woodcock Passage Comprehension Test* in written rather than oral form. A total of 100 randomly selected grade eight students were used as subjects. Half of them received the Woodcock in oral form first, followed by written form (OW); the other half took the test in written form first, then in oral form (WO). Subjects began with item 21 in both oral and written versions. The product-moment coefficient between the two scores was .82.

SMITH, CYRUS F., JR., & WESTERN, RICHARD D. Passage independence: a neglected issue in the measurement of reading proficiency. *Reading World*, May 1980, 19, 352-356.

Determines whether or not the *Stanford Test of Academic Skills*, Level 1, (TASK) is passage independent. The 101 tenth graders used in the study each received a packet of materials consisting of two parts: 1) a passage-out component—the test questions without the passages, and 2) a passage-in component. Forty-nine subjects received one form of the TASK in passage-out and the other form in passage-in condition; 52 subjects received the tests in reverse condition. About 92% of subjects who took Form A in passage-out condition exceeded the chance mean score, and 100% of those who took Form B in passage-out condition exceeded the expected chance mean score.

HANNA, GERALD S., & OASTER, THOMAS R. Studies of the seriousness of three threats to passage dependence. *Educational and Psychological Measurement*, Summer 1980, 40, 405-411.

Presents three studies concerned with three kinds of multiple-choice reading comprehension questions that may be answered correctly at a better-than-chance level when they are administered without the accompanying passage. For each of the studies, two sets of mastery questions were developed to assess comprehension of a 543-word passage. One set of questions contained one of the kinds

of high risk items, and the second set eliminated those features. Both sets of questions were printed in a passage out (PO) format and in a passage in (PI) format. Subjects were 387 ninth graders in two schools. In half of the classes in each school, students were given the PI condition, and in the other half, the PO condition. The three studies were designed to create situations in which three kinds of high risk items would not lead to PI invalidity. One study demonstrated that a high risk item does lead to passage dependence invalidity, whereas two failed.

ENTIN, EILEEN B., & KLARE, GEORGE B. Components of answers to multiple-choice questions on a published reading comprehension test: an application of the Hanna-Oaster approach. *Reading Research Quarterly*, 1980, 15(2), 228-236.

Applies a method of assessing context dependence to the questions on Form A of the *Nelson-Denny Reading Test*. Cloze tests on seven of the eight Nelson-Denny passages were given to 169 undergraduates. Of these, 79 took a solid-line cloze test version and 90 took a dash-line version. A separate group of 51 students took the multiple-choice questions on the Nelson-Denny without reading the passages. Two indices, the context dependent index (CDI) and the context independent index (CII) were computed. The CII's for items ranged from $-.20$ to $.66$. The negative CII values indicate that subjects answering the questions without the passage do worse than chance, suggesting that something in the wording of the question steers the reader away from the correct response. The high positive values for CII indicate a much better than chance rate, suggesting the questions were answered on the basis of prior information or logical analysis. The CDIs ranged from $-.39$ to $.82$. CDI correlated positively with both cloze and readability indices. The results suggested that scores on the difficult passages of the Nelson-Denny were inflated because questions could be answered without having to comprehend.

REYNOLDS, CECIL R. The invariance of the factorial validity of the *Metropolitan Readiness Tests* for blacks, whites, males and females. *Educational and Psychological Measurement*, Winter 1979, 39, 1047-1052.

Evaluates, through factor analysis, the construct validity of the six subtests of the *Metropolitan Readiness Tests* (MRT) across race and sex. Subjects consisted of 90 white girls, 86 white boys, 23 black girls, and 73 black males who were administered the MRT during the first two weeks of grade one. Using factor analysis techniques, a single factor, congruent across groups, was found for each race/sex group. Thus the author concluded that the MRT was measuring the same abilities for blacks, whites, boys, and girls.

STONEBURNER, ROBERT L., & BROWN, BARBARA A. A comparison of PIAT and WRAT performances of learning disabled adolescents. *Journal of Learning Disabilities*, November 1979, 12, 631-634.

Correlates performance on the *Wide Range Achievement Test* (WRAT) and the *Peabody Individual Achievement Test* (PIAT) using a secondary learning disabled population. Subjects were 60 white adolescents (42 males, 18 females) drawn from six high schools. Their average age was 16-18, and their average Stanford-Binet IQ was 90. The mean reading grades on the Reading Recognition and Reading Comprehension subtests of the PIAT were 7.5 and 7.4; the mean reading grade on the WRAT was 7.3. Spelling grade on the WRAT was 6.2 and on the PIAT, 6.5. The mean PIAT mathematics score was 7.6, on the WRAT it was 5.7. Product-moment correlation coefficients between the comparable subtests of the PIAT and WRAT were as follows: WRAT reading and 1) reading recognition subtests of the PIAT, $.88$; spelling, $.80$; mathematics, $.63$; and reading comprehension subtest of PIAT and WRAT reading, $.62$. The author interprets these results as generally supporting the concurrent validity of the PIAT.

REYNOLDS, CECIL R. Factor structure of the *Peabody Individual Achievement Test* at five grade levels between grades one and 12. *Journal of School Psychology*, Fall 1979, 17, 270-274.

Conducts a factor analysis of the *Peabody Individual Achievement Test* (PIAT) to determine whether the PIAT can be interpreted as an overview of scholastic attainment, or if it has sufficiently precise psychometric properties to allow for interpretation of individual subtest scores. Subjects were the standardization sample for the PIAT for those grade levels with reported subtest intercorrelations in the *PIAT Manual*: grade 1, N = 225; grade 3, N = 219; grade 5, N = 228; grade 8, N = 204; grade 12, N = 217. This sample closely matched 1967 census data on several stratification variables. Raw score subtest intercorrelations reported in the manual were factor analyzed at each of the grade levels. Two-factor solutions were retained at all grade levels, the third factor never contributing more than 12% of the variance. Factor 1 appeared to be measuring Verbal Comprehension and Reasoning Skills, Factor 2 appeared to be measuring Acquired Factual Knowledge. The author concludes that the PIAT appears to be more than an adequate screening test of general academic attainment but lacks sufficiently precise psychometric properties to provide specific diagnostic information. The factors were also related to Cattell's concepts of fluid and crystallized intelligence.

WALLBROWN, FRED H., & FREMONT, THEODORE. The stability of Koppitz scores on the Bender-Gestalt for reading disabled children. *Psychology in the Schools*, April 1980, 17, 181-184.

Examines the test-retest reliability of Koppitz scores on the *Bender-Gestalt Test* for 84 reading disabled children. CA for the 61 boys and 23 girls ranged from 7-8 to 11-2, and the range of Full Scale WISC IQ was 84 to 131. Children were determined to be reading disabled on the basis of the following data: 1) educational history, 2) developmental history, 3) medical history, 4) educational evaluation, and 5) psychological assessment. All children showed at least a two-year discrepancy between reading test scores and learning expectancy. The test-retest interval for the Bender ranged from 12 through 24 days. The coefficient between total scores for the first and second administration was .83.

DIXON, NANCY POWELL. A test to help improve instruction in reading comprehension. *Reading Improvement*, Spring 1980, 17, 22-25.

Describes the development of an instrument designed to test preservice teachers' abilities to classify comprehension activities into five major areas. The test is a 60-item multiple-choice design. Content validity was established by having four judges evaluate the test items. A 75% level of agreement with the author's category designation for each item was required. Construct validity was determined by comparing mean scores of two groups on the test. One group of 21 was given five hours of instruction and practice in dealing with the taxonomy or classification schema; the other group of 21 was given no prior instruction on reading comprehension. The mean scores of the two groups differed significantly. A reliability coefficient of .97 was obtained for the test by using the split-half method.

DUFFY, GERALD G., & METHENY, WILLIAM. The development of an instrument to measure teacher beliefs about reading. In Michael L. Kamil & Alden J. Moe (Eds.) *Reading research: studies and applications. Twenty-eighth Yearbook of the National Reading Conference*, 1979, Pp. 218-222.

Describes the development of an instrument designed to ascertain teacher beliefs about reading. The instrument went through several initial tryouts before a final 45 item form was developed. This form was then administered to 178 graduate and undergraduate students and reliability coefficients for the five subscales ranged from .62 to .78.

SHORR, DAVID N.; JACKSON, NANCY E.; & ROBINSON, HALBERT B. Achievement test performance of intellectually advanced preschool children. *Exceptional Children*, May 1980, 46, 646-648.

Investigates the feasibility of using the *Peabody Individual Achievement Test* (FIAT) with intellectually precocious preschoolers. Thirteen boys and 11 girls between 35 and 60 months of age enrolled in a preschool for gifted children were pretested on the PIAT between October and February. In May and June, the PIAT was successfully readministered to 21 of the 24 children. Kuder-Richardson 20 internal consistency coefficients were computed for four of the PIAT subtests at initial testing. They ranged between .88 and .96. Test-retest correlation coefficients for subtests and total PIAT scores ranged from .70 to .93. Mean retest gain on the PIAT was approximately seven months. The coefficient between total PIAT score at initial testing and adjusted *Stanford-Binet Intelligence Scale* score was .73; at retesting, the coefficient was .63.

LOWELL, ROBERT. Learning style — does it relate to achievement? *New England Reading Association Journal*, 1980, 15(2), 35-42.

Describes a test of learning style, the *Sensory-Psychomotor Test* (SPT) and presents reliability and validity data on it. Reliability and validity data were collected on 92 second graders who represented a proportionate random sample of children from each elementary school in one Maine city. They had all taken the *Otis-Lennon Intelligence Test* in the fall and the *Metropolitan Achievement Test* (MAT), Primary II, in March of second grade. Reliability coefficients on the 12 subtests of the SPT ranged between .54 and .81 with a coefficient of .91 for the total test. Coefficients between the SPT and the Otis-Lennon ranged from -.09 to .47 for subtests. Total score on the SPT had a correlation coefficient of .55 with the Otis-Lennon score. SPT total score coefficients with the MAT subtests were .65 with Word Knowledge, .64 with Total Reading, .63 with Spelling, and .62 with Total Math.

ABU-SAYF, F. K., & HERBOLICH, JAMES B. The validation of competence areas of English as a foreign language using three criteria. *Journal of Experimental Education*, Winter 1979/1980, 48, 170-173.

Constructs two 160-item tests to assess proficiency in English of foreign language speaking students and reports reliability and validity indices. One test was devised with a scientific content bias for science students, and the other with general English content. The tests each contained four subtests: grammar, listening comprehension, reading comprehension, and translation. Measures of grade point average (GPA) and writing ability were used to determine concurrent validity. A total of 139 students took the science-oriented test. Listening comprehension made the greatest contribution to the measurement of English proficiency as a foreign language. For reliability, grammar was the highest section and translation, the lowest. When subtests scores were correlated with scores on the remainder of the test as another measure of validity, the coefficients indicated grammar was again the highest and translation, the lowest. When correlated with writing ability, total test scores showed the highest relationship, followed by reading comprehension.

MADSEN, HAROLD S. An indirect measure of listening comprehension. *The Modern Language Journal*, December 1979, 63, 429-435.

Studies the efficacy of using a reading test as an indirect measure of listening comprehension with English as a Foreign Language (EFL) students. Subjects were four groups of native Egyptians who were applying to the American

University in Cairo. A total of 354 graduate and undergraduate students were administered an alternate modality listening examination (AMLEX); the *Michigan Test of Aural Comprehension* (MTAC); and the *Michigan Test of English Language Proficiency* (MTELP), a battery of grammar, vocabulary, and reading. Data were presented for only 145 subjects, however. For subjects taking the test the first semester, a 25-minute time limit was imposed on the AMLEX; the second semester group was given 35 minutes. Three scores were determined for the AMLEX: 1) percentage of correct items, 2) percentage correct minus a guessing correction, and 3) percentage correct of those attempted. Each set of AMLEX scores was correlated with MTAC scores and with subtest scores on the MTELP battery. Highest scores were obtained for the third scoring procedure. Correlation coefficients of .82 and .86 were obtained between AMLEX and MTAC when guessing is corrected, and a low of .73 to .81 when the time factor is minimized. The relationship between the AMLEX and subscores and total scores on the MTELP was consistently higher than the relationship found between the MTAC and MTELP scores.

V-14 Instructional time

HIATT, DIANA BUELL. Time allocation in the classroom: is instruction being short-changed? *Phi Delta Kappan*, December 1979, 61, 289-290.

Reports the findings of a time allocation study of 25 primary teachers in the Los Angeles area. Approximately 20% of morning class time was devoted to instruction, with half of that proportion spent on reading. Evaluation accounted for 22% of the time, an additional 18% was spent in classroom discipline, and 10% was occupied with giving directions. The remainder of the morning was taken up with administration, preparing materials, recess break, yard duty, and clerical matters. Teachers with aides spent 29 minutes in classroom management or discipline, while teachers without aides consumed 40 minutes. Of the 11 minutes saved from discipline, six were spent in instruction. Great variability was noted in the use of time by teachers from day to day.

V-15 Television and reading instruction

PETERS, F. J. J. Printed messages in American commercial television and the reading teacher. *Journal of Reading*, February 1979, 22, 408-415.

Attempts to evaluate the potential of print appearing on commercial television for reading instruction. During July and August, 1977, data were collected from television broadcasts in the New York and Philadelphia areas. With the exception of news broadcasts, data were taken from randomly chosen hour long broadcasts during weekday and weekend prime time television viewing and during children's Saturday/Sunday morning television. Each printed word that appeared in a television broadcast was counted excluding such things as product names, actors' names, and material which was used as background. The smallest number of words (71) in a one-hour period appeared during a broadcast of a baseball game, while the largest number (1,033) appeared in a Saturday A.M. children's television show. Viewers may expect to see between 200 to 300 printed words per hour of prime-time television commercials. The author discusses the professional's role in using TV print

BURTON, SYDNEY G.; CALONICO, JAMES M.; & MCSEVENY, DENNIS R. Effects of preschool television watching on first-grade children. *Journal of Communication*, July 1979, 6, 164-170.

Explores the effects of preschool television watching experiences on children's social integration and academic performance. Five first grade classrooms in two schools were utilized for data. There were 75 pupils in School 1, a racially mixed, lower-socioeconomic city school; School 2, a primarily white, middle-socioeconomic suburban school had 99 pupils in first grade. Final consent to be included was obtained for 128 children. Parents were asked to estimate the amount of time their children had spent watching TV on weekdays at ages three, four, and five. Academic performance was determined by the average grade in language, mathematics and reading obtained at the end of the school year. Sociability was assessed by a sociometric instrument. Preschool TV viewing was inversely related to grades in first grade and also inversely related to sociability. A stepwise multiple regression analysis indicated that TV viewing explained the largest portion of the variation in grades among ten independent variables.

VI. Reading of atypical learners

Incorporated in this section is research dealing with the reading of such various atypical groups as the visually handicapped, the hearing impaired, the mentally handicapped, and the multi-handicapped. Additionally, the reader will find reports on the reading of individuals with severe emotional or psychological problems.

VI-1 Visually handicapped

KIRCHNER, CORINNE; PETERSON, RICHARD; & SUHR, CAROL. Trends in school enrollment and reading methods among legally blind school children, 1963-1978 (Statistical Brief #6). *Journal of Visual Impairment and Blindness*, November 1979, 73, 373-375, 377, 379.

Reports and analyzes data gathered annually by the American Printing House for the Blind from records submitted by residential and non-residential schools. Specifically, data are compiled which relate to the social aspects of blindness, including the reading methods employed and the types of school situations. Trends showed a rise in total number of legally blind children from 1963 to 1978 (17,090 to 29,403). By 1978, 24% of the legally blind school children were enrolled in residential schools (down from 45% in 1963). The proportion of children in ungraded programs in both residential and non-residential settings has increased. There appeared to be a sharp decline in the percentage of legally blind students who use braille and an increase in those classified as using neither braille or large type, relying instead on regular print, recorded materials, sighted readers, or combinations of the preceding.

WILLIS, DEBORAH HILL. Relationships between visual acuity, reading mode, and school systems for blind students. *Exceptional Children*, November 1979, 46, 186-191.

Replicates earlier studies by the American Printing House for the Blind of the relationships among visual acuity, reading mode, grade level, and type of educational program for 26,433 blind students enrolled in educational programs receiving federal funds. The reading mode categories included braille, braille and large

type, large type, large type and ink, regular ink, and aural. Overall, the distribution of students within nine categories of visual acuity or designation remained stable between this study and one conducted four years earlier. Since the earliest study in 1961, the proportion of students with more severe visual disorders gradually decreased, while the less severe categories increased. In general, the enrollment decreased. The number of regular ink and large type readers increased and the use of braille decreased significantly. Aural reading material was used much more extensively.

GOODRICH, GREGORY L.; BENNETT, RICHARD R.; DE L'AUNE, WILLIAM R.; LAUER, HARVEY; & MOWINSKI, LEONARD. Kurzweil reading machine: a partial evaluation of its optical character recognition error rate. *Journal of Visual Impairment and Blindness*, December 1979, 73, 389-399.

Evaluates the optical character recognition (OCR) of the Kurzweil Reading Machines (KRM) by assessing OCR error rate using three different type styles and five means of producing copy; by assessing the effect of the KRM's learning feature; by classifying the type of OCR errors made by type style and method of materials production; by assessing inter-machine reliability among three KRMs, and developing a general protocol to be used to evaluate OCR error rates with subsequent generation KRMs and other synthetic-speech reading machines. Results indicated that the KRMs have different error rates depending upon the means of copy production and the type style; there was a significant interaction between copy method and type style. Error rates varied between less than one percent to more than 20%. In general, as the quality of the material decreases, the number of errors made by the machines increased. As the error rate increases, the user experienced greater difficulty in understanding the spoken output.

LORIMER, JOHN, & TOBIN, MICHAEL J. Experiments with modified Grade 2 braille codes to determine their effect on reading speed. *Journal of Visual Impairment and Blindness*, October 1979, 73, 324-328.

Describes four experiments in which Standard English Braille is compared with three "reduced" codes and one "expanded" code to determine effects on adult blind subjects' speed of reading. Subjects were randomly assigned to one of four groups and asked to read two prose passages, one in Standard English Grade Two Braille, and the other in a modified code. In Experiments Three and Four, subjects answered comprehension questions. For Experiment One, the reduced code of contractions and the conditions of no pre-practice with the code may have contributed to Standard Braille texts being read significantly more rapidly. In Experiment Four, expansion of the code led to a significantly superior mean rate on the Standard Braille test. Experiments Two and Three produced no significant differences. The authors indicated that space saving and ease of learning are other criteria that need to be considered when braille is modified.

FOULKE, EMERSON. Increasing the braille reading rate. *Journal of Visual Impairment and Blindness*. October 1979, 73, 318-323.

Examines possibilities for increasing the reading rate of braille readers: 1) to change the perceptual ability of the braille reader; 2) to change the manner in which the braille characters are displayed; and 3) to change the code. Reviews the related literature.

FOULKE, EMERSON. Investigative approaches to the study of braille reading. *Journal of Visual Impairment and Blindness*, October 1979, 73, 298-308.

Reviews research studies related to three general approaches to the study of braille reading. In the first group, studies are summarized which deal with the

observation and description of braille reading behavior and comparisons of fast and slow readers. The second set of studies was concerned with determining the legibility of braille characters and readability of words composed of braille characters. The third group of studies related to the manner in which braille characters are displayed in order to observe their effects on reading behavior. This literature review makes suggestions for further research.

MARMOLIN, HANS; NILSSON, LARS-GÖRAN; & SMEDSHAMMAR, HANS. The mediated reading process of the partially sighted. *Visible Language*, 1979, 13(2), 168-183.

Proposes and tests a reading model for the partially sighted. Reading rates of 41 good, average, and poor partially sighted readers were compared for isolated letters, words, sentences and paragraphs. For all groups the reading of letters was slower than the reading of words, sentences, and paragraphs. The sentence reading of poor readers was slower than their word reading, while the opposite was true for good readers. Results suggested that poor readers could not utilize semantic content and follow a mediated, letter by letter model. Further breakdown of subjects into finer medical categories was attempted as was an evaluation of training procedures.

HALL, AMANDA, & RODABAUGH, BARBARA. Development of a pre-reading concept program for visually handicapped children. *Journal of Visual Impairment and Blindness*, September 1979, 73, 257-263.

Describes the development and formative evaluation of an individualized program for teaching concepts to visually handicapped children at a pre-reading level. The program, which emphasized concrete multisensory experiences and appropriate language in conjunction with the manipulative tasks, was field tested with 11 teachers and 20 students at various departmental levels. Evaluative data were collected by means of progress logs submitted by the teachers and teacher interviews. Progress log data revealed that time needed to teach each lesson was within reasonable limits. Teachers rated two-thirds of the lessons to be appropriately difficult. Pretest scores yielded data on the logical sequencing of lessons. Interviews with teachers revealed that program strengths included ease of use, high interest level, and choice of concepts.

CATON, HILDA. A primary reading program for beginning Braille readers. *Journal of Visual Impairment and Blindness*, October 1979, 73, 309-313.

Reviews the research in the area of braille reading, tactual perception, concept development in blind children and current practices in teaching reading in order to compile a set of specifications for a braille reading series. These specifications provide guidelines for the selection of both appropriate vocabulary and teaching methodology for blind readers.

WOOD, THOMAS A. The usability of the adapted Durrell Listening-Reading Series with students in the intermediate grades. *Education of the Visually Handicapped*, Summer 1979, 11, 33-38.

Presents reliability and validity data related to the use of the *Durrell Listening-Reading Series* (DLRS) with 71 visually handicapped intermediate grade students. Subjects were selected from four residential schools for the blind and divided into two groups according to their primary mode of reading: large print or braille. Each group was administered the appropriate form of the Intermediate Level Listening and Reading Sections of the DLRS. Both Listening and Reading Tests, as well as the total DLRS, appeared to have a high degree of internal consistency. In addition, the correlation coefficients between the DLRS and the *Stanford Achievement Test* were significant, indicating criterion-related validity.

KIKUCHI, TADASHI; YAMASHITA, YUKIO; SAGAWA, KEN; & WAKE, TENJI. An analysis of tactile letter confusions. *Perception & Psychophysics*, October 1979, 26, 295-301.

Describes the kinds of information four adult blind persons (two congenitally and two adventitiously) used in recognizing tactile letters presented on their backs. A further purpose was to investigate the nature of the mutual interaction of multiple point stimulators when blind subjects try to recognize tactile letters. In the experiment, 26 letters of the alphabet were presented at random while the subject pressed back against a tactile matrix and was asked to identify the letter. After 20 blocks of the experiment the performances tended to increase up to about 90%, although there were variations in performance. The two adventitiously blind subjects did not show any notable improvement in performance. Their identification remained at about 40%, possibly because of fewer trials before the experiment began. The identification performance of even the congenitally blind subjects deteriorated after they had been away from the experimental situation for a length of time. The letter *I* was easiest to identify and *G* the most difficult.

SATO, YASUMASA. The letter reading of partially sighted pupils. *The Science of Reading*, December 1975, 19, pp. 86-92.

Compares the ability of 95 partially sighted pupils and 75 pupils with normal vision in grades one through six to read Kana syllabic characters and Kanji ideographic characteristics. Two timed conditions were tested (normal and twice the usual length). In the usual length condition, the reading of the partially sighted was inferior. In the double-length condition, the reading of the partially sighted first and second graders was equal to that of the normally sighted, but in grades three through six, the reading of the partially sighted was inferior to that of the normally sighted. It was concluded that the inferior achievement of the partially sighted is due to both slower visual perception and to the increasing complexity of Kanji characters.

COKER, GARY. A comparison of self-concepts and academic achievement of visually handicapped children enrolled in a regular school and in a residential school. *Education of the Visually Handicapped*, Fall 1979, 11, 67-74.

Compares the academic achievement and self-concept of 20 visually handicapped children enrolled in grades three to six in regular day schools with 20 third through sixth grade visually handicapped pupils in residential schools. The sample was stratified to approximate the general population of the United States. Achievement scores did not differ at the third grade level, but were higher for the fourth, fifth, and sixth-grade levels for children enrolled in residential schools. At the sixth-grade level, the difference was significant. The overall self concept of both groups did not differ.

VI-2 Hearing impaired

GEOFFRIAN, LEO D., & SCHUSTER, KAREN E. *Auditory handicaps and reading: an annotated bibliography*. Newark, Delaware: International Reading Association, 1980.

Presents the findings of basic research which focused on the severity of the reading deficit of deaf students.

PFLASTER, GAIL. A factor analysis of variables related to academic performance of hearing-impaired children in regular classes. *The Volta Review*, February/March, 1980, 82, 71-84.

Seeks to identify variables related to the academic performance of 182 hearing-impaired children in order to identify factors to consider in making appropriate educational placements. The subjects ranged from 6.6 to 19.8 years of age. Thirteen intrinsic factors (related to cognitive abilities and personal attributes) and extrinsic factors (associated with parents or professionals educating the child) were significantly related to reading comprehension test scores. Three factors accounted for almost 50% of the variance: Oral Communication, Personality, and Linguistic Competence. The factors are discussed in terms of their implications for determining the suitability of mainstream settings.

MESSERLY, CAROL L., & ARAM, DOROTHY M. Academic achievement of hearing-impaired students of hearing parents and of hearing-impaired parents: another look. *Volta Review*, January 1980, 82, 25-32.

Compares the academic achievement of two matched groups of high school level hearing-impaired students of hearing-impaired parents and of hearing parents ($N = 16$). The entire battery of the *Stanford Achievement Test* served as the measure of academic achievement for the two groups. Hearing-impaired students of hearing parents were found to perform significantly higher in tests of Vocabulary, Language, Science, and Mathematical Concepts. Reading Comprehension, Mathematical Application, Social Science, Spelling, and Mathematical Comprehension Tests failed to differentiate between the two groups, although Reading Comprehension and Mathematical Application approached significance in favor of the children of hearing parents. These findings are in contrast to what has been reported in the literature.

LAYTON, THOMAS L.; SCHMUCKER, KARLA J.; & HOLMES, DAVID W. Vocabulary and syntactic structures in adapted "classics" readers for deaf children. *American Annals of the Deaf*, August 1979, 124, 433-443.

Compares the vocabulary and syntactic structures in a "classics" series adapted for deaf children and a traditional basal program. Specifically, a representative sample of 50 sentences were selected from beginning, middle and end of each of 11 stories selected from both series. Analyses of sentences included mean length of response (MLR), mean length of utterance (MLU), kernel sentence type, transformation type, type token ratio, and number of different words. Results indicated that while the classics and basal readers contained the same variety of sentence types, there was a significant difference in the frequency of specific types both within and between the programs. Results also indicated that the adapted classics were written with simpler syntactic structures and shorter sentences than the basal readers, but that the classics were less efficiently controlled for the introduction of vocabulary than were the basal readers.

FUSARO, JOSEPH A., & SLIKE, SAMUEL B. The effect of imagery on the ability of hearing-impaired children to identify words. *American Annals of the Deaf*, December 1979, 124, 829-832.

Investigates the influence of imagery on the ability of 40 hearing impaired children to identify 12 words of high, moderate and low imagery. Words were presented in artificial symbols to the subjects whose hearing losses ranged from moderate to profound. Students were categorized into two age groups. An age group by imagery level (2×3) factorial design with repeated measures across imagery level revealed that regardless of age, imagery significantly influenced the

ability to identify words. Subjects identified a greater number of high-imagery words than moderate-imagery words and significantly more moderate-imagery words than low-imagery words. Older subjects learned to identify more words than younger.

BROOKS, C. R., & RIGGS, S. T. WISC-R, WISC, and reading achievement relationships among hearing-impaired children attending public schools. *The Volta Review*, February/March 1980, 82, 96-102.

Compares the Wechsler Intelligence Scale for Children (WISC) and the WISC-R (the restandardized WISC) for determining the nonverbal aspects of intelligence and for predicting the reading achievement of hearing-impaired children attending public schools. Forty hearing-impaired subjects (M = 26; F = 14) ranging in age from 6-2 to 16-3 were administered performance scales from both tests. Reading achievement was measured with the *Stanford Achievement Test, Special Edition for the Hearing Impaired* and classroom observations of students' reading. The mean difference between the WISC and WISC-R was significant. Hearing-impaired children obtained lower WISC-R scores. Subtests of both scales were highly correlated, indicating that the WISC-R validly measures intelligence among hearing-impaired children. Performance IQs for each IQ test were correlated with reading achievement and found nonsignificant; however, IQs converted to Mental Age produced positive significant coefficients of correlation with reading. The authors advise that preference for the WISC-R over the WISC for intellectual assessment could result in greater numbers of hearing-impaired students classified as retarded.

VI-3 Mentally handicapped

HIROSHOREN, ALFRED, & BURTON, THOMAS A. Teaching academic skills to trainable mentally retarded children: a study in tautology. *Mental Retardation*, August 1979, 17, 177-179.

Reviews the literature related to teaching reading and other academic skills to trainable mentally retarded children. The authors question the value of teaching these skills in terms of their contribution to the ultimate adjustment of subjects functioning in the natural environment.

ZETLIN, ANDREA G., & GALLIMORE, RONALD. A cognitive skills training program for moderately retarded learners. *Education and Training of the Mentally Retarded*, April 1980, 15, 121-131.

Evaluates the effectiveness of a program for improving three trainable mentally retarded youths' (aged 13.10 to 14.7) use of a variety of cognitive skills while processing story information. Measures of effectiveness included analysis of discourse audio-taped during 23 training sessions, pre- and posttesting on the *Gates-MacGinitie Reading Readiness Test*, and criterion-referenced listening comprehension tests administered after every six training sessions as well as six weeks after the sessions were terminated. Improvement in listening comprehension represented a statistically significant change over the training period. The most substantial gains on the *Gates-MacGinitie* were also in listening comprehension. Analysis of the discourse sequences showed that in later sessions students showed more flexibility in responding to inferential questions, used rephrasing to a greater extent, evidenced more independence in response, altered responses with new evidence, and were better able to focus on the story as a whole.

HOBBS, TOM R.; HOLT, MICHAEL M.; & RICHARDSON, RUBY. Generalization of reading by special education students from a structured program to informal classroom activities. *Psychological Reports*, August 1979, 45, 297-298.

Seeks to determine the generalizability of a structured reading program with a reinforcement contingency to selection of reading as a free-choice activity by 15 special education elementary students. The mean number of frames completed by the students in the Sullivan Programmed Reading Series increased from 1.4 frames/minute to 4.5 frames/minute after daily reinforcers were introduced (contingent upon the class completing a weekly criterion number of frames). During a Reversal (return to baseline conditions) and a second treatment phase (return to reinforcement condition), performance remained stable. Subjects were simultaneously monitored in a daily 30-minute afternoon activity period. With the introduction of the reinforcement contingency, free time reading increased from 26% to 56%, yet declined to 45%, then 24% during the reversal and second treatment phase.

BLAKE, KATHRYN A. Special reading instructional procedures for mentally retarded and learning disabled children: summary, instructional principles, and next step. *Journal of Research and Development in Education*, Monograph 1976, 9, 1-63.

Reports results of a three-pronged research study designed to ascertain whether or not groups of normal, learning disabled, and retarded learners, equated in various ways, responded differently to treatments based on learning and language research, to examine whether groups differed in attainment within each treatment, and to present implications for instruction. Dependent variables were selected reading skills of Word Recognition, Word Meaning, and Literal Comprehension and Interpretation. Instructional principles for retarded and normal pupils were presented in this volume.

SONG, AGNES. Acquisition and use of Blissymbols by severely mentally retarded adolescents. *Mental Retardation*, October 1979, 17, 253-255.

Examines the effect of instruction in Blissymbols on four non-verbal mentally retarded adolescents' ability to acquire and use symbols at both respondent and spontaneous levels. Entry into the training program was determined by the subject's desire to communicate, as judged by teacher questionnaires and by an experimenter-constructed instrument, the *Environmental Language Inventory*. In addition, all subjects could point to at least ten pictures on the *Peabody Picture Vocabulary Test*. After a ten-and-one-half-month training program, the three subjects who remained in the program varied greatly in the number of Blissymbols acquired, in instances of spontaneous use of the symbols, and in the time required to acquire symbols. This was despite the fact that attempts were made to ensure a homogeneous group. These differences were inexplicable due to subject and trainer variables.

BLAKE, KATHRYN. Prompts and retarded and normal pupils' sentence recall. *Journal of Research and Development in Education*, 9, Monograph 1976, 84-86.

Investigates the effect of presence or absence of prompts and of different types of language prompts (subject noun, remote superordinate, and close superordinate) on the ability of normal and retarded pupils to recall eight sentences. Subjects had four learning trials. Subject noun prompts had a similar effect on each group. All groups were aided by prompts when they were dealing with remote and close subordinates. Normal subjects were better able to capitalize on the prompt

during learning. The effectiveness of the type of prompt for the older (normal) group depended on whether prompts were present during learning. When the prompts were not present during learning, the subject nouns were most effective. Subject nouns were also the most effective prompts for the younger and retarded group. The normal groups responded more adequately than the retarded except in one situation: younger normals and retarded did not differ when they dealt with close superordinate prompts which had not been present during learning.

TUCKER, JACQUELINE. Contiguity of transformations and retarded and normal pupils' learning of sight vocabulary. *Journal of Research and Development in Education*, Monograph 1976, 9, 10.

Investigates the relative effectiveness of two amounts of contiguity of the transformations on normal and retarded pupils' ability to learn 12 new words. All subjects had four study lists and four test lists. The transformation pairs were contiguous on all four study lists in Treatment 1, but only on the first study list in Treatment 2. For the study list, the investigator read the words as the subjects studied both the word and its shorthand symbol. The symbols were six transformations, two right to left, two up to down, and two rotated. The investigators also pointed out the contiguity of the transformed words on the contiguous lists. On the test lists, subjects circled the correct response when presented with four alternative responses. Older normal and younger normals performed equally well and both superior to the retarded group. Subjects receiving one contiguous list did as well as subjects receiving four such lists.

NIETUPSKI, JOHN; WILLIAMS, WES; & YORK, ROBERT. Teaching selected phonic word analysis reading skills to TMR labeled students. *Teaching Exceptional Children*, Summer 1979, 11, 140-143.

Describes a program developed to teach phonic analysis to six trainable mentally retarded students (aged 11 to 15, with a mean IQ of 49). Students learned to label letters with appropriate sounds and rapidly blend those sounds into words. The instructional emphases allowed for application in other reading activities. Twice each week, skill acquisition was assessed with a probe sheet on which students first practiced, then labeled letters with appropriate sounds for a period of 30 seconds. Teachers calculated and graphed correct and incorrect responses. Five of the six students completed the program by the end of the school year. Informal observations revealed that students were applying skills while reading from class materials and for pleasure.

STERICK, GLADYS. A follow-up study of ten children who learned to read in a class for trainable students. *Education and Training of the Mentally Retarded*, October 1979, 14, 170-176.

Reports a follow-up study of ten children classified as trainable ten years after they had been introduced to reading using a modified language experience approach, followed by use of preprimers, primers, and introduction to simple phonic generalizations. Students had made good life adjustments and revealed achievements beyond early expectations. Three had been reclassified as educable and completed high school. Seven had retained their trainable classifications and at ages 15 or 16 had been transferred to other classes where their reading program was not continued. They had remained in school four or five years after the initiation of reading instruction, however, and when interviewed were reading "at or well above the functional reading level."

ALLINGTON, RICHARD L. Word frequency and contextual richness effects on word identification of educable mentally retarded children. *Education and Training of the Mentally Retarded*, April 1980, 15, 118-121.

Investigates the effects of potency of context and word frequency in eliciting reading responses from 35 educable mentally retarded children, aged 8-6 to 11-2. Twelve sets of sentences, each containing a deletion, and representing three levels of contextual richness (rich, moderate, or low) were classified according to the ease with which adults in an earlier study had correctly supplied the target word. EMR subjects who had difficulty supplying a word to fit the blank or who failed to produce the target word were shown the first letter of the word and asked to supply a word that "fit" and began with that letter. The exposure of additional graphemes continued until the word was guessed or the whole word was exposed. Subjects required less graphemic information for high frequency target words. Yet both high and low frequency words required greater amounts of graphemic information as contextual richness decreased.

HALLINAN, PETER; GARCHOW, RAY; & PALMER, ELEANOR. Word recognition skills in a class for mildly mentally retarded boys. *Reading Education*, Spring 1979, 4, 24-27.

Reports the results of administering the *Doren Diagnostic Test of Word Recognition Skills* to a mildly retarded class of nine boys at a residential institution in Australia. The children were between 10 and 13 years old. Test direction phrases and vocabulary words that were difficult for the children were mentioned. Skills were weakest in the areas of plural endings and rhyming.

FINK, WILLIAM T., and BRICE-GRAY, KATHLEEN J. The effects of two teaching strategies on the acquisition and recall of an academic task by moderately and severely retarded preschool children. *Mental Retardation*, February 1979, 17, 8-12.

Evaluates the effectiveness of two teaching strategies (successive pairs programming and cumulative programming) on the acquisition and retention of five sight words by ten moderately and severely retarded preschoolers. Five children were taught with successive pairs programming, a procedure that taught to mastery all five words in isolation, as well as all possible pairwise (two-choice) discriminations of those words. The group taught by cumulative programming also learned each word to mastery, but as learning proceeded, each word was discriminated from all previously mastered words. Performance was measured by the number of presentations required to learn all the words and the number of words recalled correctly on the posttest. The five children who received the cumulative programming strategy learned the words in significantly fewer trials and identified more words correctly on the posttest.

GARDNER, DAVID C., & KURTZ, MARGARET A. Teaching technical vocabulary to handicapped students. *Reading Improvement*, Fall 1979, 16, 252-257.

Reports the findings of a field-test of two instructional modules in graphic arts technical vocabulary designed for the vocational training of learning and language disabled students who have been "mainstreamed" into regular vocational programs. A special feature of each self-paced module was a picture dictionary in which students could find the technical word, its syllabication, definition, and an illustration or example. Rating scales obtained from resource teachers on 15 of the 17 students in the sample indicated significantly higher overall student progress. Student ratings were positive. The seven special education teachers who participated in the field-testing found the organization, clarity, and effectiveness of the modules, as compared with other teaching materials, to be in the "Above Average" to "Superior" range.

BLAKE, KATHRYN. Type of negation and retarded and normal pupils' drawing inferences from sentences. *Journal of Research and Development in Education*, 9, Monograph 1976, 87-88.

Studies the inferences involving presuppositions and implications that are drawn by retarded and normal subjects. When presented with 16 sentences and 16 foils developed from the affirmative and negative implications and the presuppositions of basic sentences, the retarded performed less well in correctly marking the statements true or false. Positive sentences were easier to deal with than negative, but double negative, explicit negatives and implicit negatives did not differ. False presuppositions were easier to recognize than true ones.

FORNESS, STEVEN R.; SILVERSTEIN, ARTHUR B.; & GUTHRIE, DONALD. Relationship between classroom behavior and achievement of mildly mentally retarded children. *American Journal of Mental Deficiency*, November 1979, 84, 260-265.

Investigates the relationship between actual classroom behavior and academic achievement of mildly retarded children as judged from observations and by teachers and peers in two different classroom settings. Subjects were selected from 26 classes for the educable mentally retarded ($N = 133$) and from 19 educationally handicapped classrooms ($N = 44$). A behavioral observation instrument was used to code pupil behavior at six-second intervals for a minimum of ten intervals per child for four days. Behaviors coded included verbal positive, attending, not attending, and disrupting. No significant differences were found between EMR and EH classrooms in subjects' observable classroom behavior or in reading achievement, as measured by the *Wide Range Achievement Test*. There were significant differences in arithmetic achievement and intelligence test scores favoring the EH classrooms.

BREKKE, BEVERLY; WILLIAMS, JOHN D.; & FOLLMAN, DENNIS E. Comparative assessment of visual perceptual abilities in the trainable mentally retarded. *Perceptual and Motor Skills*, December 1978, 47, 735-738.

Compares visual perceptual abilities of 47 trainable mentally retarded subjects ($M = 23$; $F = 24$) whose IQs ranged from 26 to 60 and whose ages ranged from 11 to 26 on selected measures of visual perception. Significant relationships were found between the *Developmental Test of Visual Perception* and the Matching and Copying subtests of the *Metropolitan Readiness Tests*. Moderate correlation coefficients were found between these two subtests and the Motor-free Visual Perception Test.

BERRY, HELEN K.; O'GRADY, DONALD J.; PERLMUTTER, LORRAINE J.; & BOFINGER, MARY K. Intellectual development and academic achievement of children treated early for phenylketonuria. *Developmental Medicine and Child Neurology*, June 1979, 21, 311-320.

Evaluates the effect on intellectual development and academic achievement of early treatment by phenylalanine restrictions in 26 patients with classical of variant phenylketonuria (PKU) and compares the outcome with non-PKU siblings, parents, and untreated patients. Treatment was with serum phenylalanine and dietary regulation. Measurements of physical growth and psychological and neurological development were used to assess the treatment. Achievement scores of the early-treated PKU children were consistent with their intellectual ability; they and their non-PKU siblings had similar standard scores for reading and spelling, but PKU children were significantly lower in arithmetic. Early-treated children whose diet had been discontinued had achievement scores in all subjects below those predicted from their IQs.

CURTIS, CHARLES K., & SHAVER, JAMES P. Slow learners and the study of contemporary problems. *Social Education*, April 1980, 44, 302-309.

Attempts a program of contemporary social problems with slow learner classes and evaluates the results. The 225 students comprising the sample ranged in age from 15 to 21 years and were enrolled in special classes for slow learners and non-achievers and in non-academic vocationally-oriented programs in eight British Columbia secondary schools. Students in the eight experimental schools investigated the problems and issues related to housing conditions in their communities. Experiences included field studies and interviews with local resource persons, as well as readings from newspapers, journals, books, and government reports. Control classes pursued their usual social studies curriculum. Assessment included pre- and posttest administrations of the *Newspaper Headlines Test*, the *Dogmatism Scale*, the *Cornell Critical Thinking Test*, the *Coopersmith Self-Esteem Inventory*, and the Reading Comprehension subtest of the *Gates-MacGinitie Reading Tests*. Additionally, a measure of attitude toward fundamental rights, the *Freedom Scale*, was administered as a posttest only. Most comparisons favored the experimental groups. However, data on the Gates-MacGinitie were ambiguous. In five of the schools, experimentals performed better in reading than did controls; in three schools, no significant differences were found.

VI-4 Multi-handicapped

HICKS, WANDA M. Communication variables associated with hearing-impaired/vision-impaired persons — a pilot study. *American Annals of the Deaf*, August 1979, 124, 419-424.

Attempts to determine through pilot testing whether eight hearing-impaired/vision-impaired youths and adults, all with reduced peripheral field, show variance in their ability to perceive and comprehend visual stimuli when manual signs are presented under four conditions. Modifications were made in the configuration, movement speed, movement size, and distance of the stimuli. Differences in visual perception were measured 1) at a distance of three feet as opposed to six feet; 2) with movement only as opposed to movement plus configuration; 3) at a normal rate or at a duration approximately 50% slower than normal; and 4) at normal movement magnitude as opposed to a reduction in movement magnitude of approximately 50%. A 20-item test was administered eight times to each of the subjects under each of the four conditions and at a distance of three- and six-feet. Results indicated that hearing-impaired/visually-impaired persons are better able to comprehend a manual sign under these conditions: a) at a distance of six feet; b) when the duration of the sign doubled; c) when the stimulus was presented in the movement modality only; d) when the stimulus was presented in the upper quadrant of the body; and e) in a reduced presentation area.

DEWEAVER, MARY J. Listening comprehension by nonblind handicapped students at three rates of speed. *Exceptional Children*, November 1979, 46, 202-208.

Investigates the effect of differing rates of playback on comprehension of Talking Books by 48 multi-handicapped elementary students. Handicaps included chronic medical illness, disorders of the musculoskeletal system, and disorders of the neuromuscular system. Students were grouped by age and reading levels. Talking Book materials were played at three rates: regular (164 wpm), compressed by 25% (203 wpm), and expanded by 25% (123 wpm). Using the *Detroit Test of Verbal Opposites* to control for listening ability, the researcher found a significant

difference ($p < .05$) in favor of expanded speed over compressed speed. Neither adjusted speed resulted in listening comprehension significantly different from that at normal speed. Age and reading level had no significant effect.

JOHNSON, C. MERLE, & KAYE, JAMES H. Behavioral contrast during the acquisition of speechreading. *Perceptual and Motor Skills*, August 1979, 49, 171-180.

Explores training procedures useful with severely hearing-impaired children. Specifically, two multiply-handicapped children were trained to speech-read (lipread) the names of three groups of six objects. One was a 12-year-old male who was hard of hearing, speech impaired, and mentally retarded; the other, a 10-year-old female who was deaf, mentally retarded, and emotionally disturbed. A multiple baseline across sets of objects was obtained for each subject. Tokens presented contingent upon correct responses to certain sets of names increased the frequencies of those correct responses. Both children exhibited positive behavioral contrast during the acquisition of speechreading; correct response to one set increased above the previously established level when the contingencies for a second set changed from token reinforcement to extinction. The obtained contrast effect was conducive to learning and the procedure effective in teaching the children to speechread the training words.

VI-5 Other atypical learners

GUERIN, GILBERT R. School achievement and behavior of children with mild or moderate health conditions. *The Journal of Special Education*, Summer 1979, 13, 179-186.

Examines classroom teachers' perceptions of the academic and social behavior of 568 children with mild or moderate health conditions enrolled in regular classes. Nineteen types of health conditions and eight levels of vision and hearing problems were identified. The relationship between types of physical and health conditions and school behavior and achievement was determined through analysis of teacher questionnaires and ratings. Further purposes of the study were to establish the frequency and type of pupil special assistance and estimate the incidence of each condition. The physical conditions most frequently associated with poor achievement or poor behavior were coordination problems, muscle weakness, epilepsy, and hyperactivity. Children with these conditions tended to receive special assistance, but the frequency and type of assistance did not match the observed need.

ROGERS, C. D., & PETERS, PHYLLIS. Reading recovery following herpes encephalitis. *Journal of Learning Disabilities*, November 1979, 12, 572-575.

Presents a case study of a 24-year-old male victim of a herpes encephalitis, a contacted acute inflammatory disease of the brain. Three years after a neurological examination, the subject had reached maximum organic recovery, measured average intelligence, but had not recovered his ability to read. Symptoms included persistent visual-perceptual inaccuracies, difficulty in producing oral equivalents of known objects or concepts, inconsistent application of skills, difficulty in blending, and persistent perservations. The subject responded to instructional sessions that included skills training and multisensory reinforcement. After 80 individual 40-minute sessions, his Nelson-Denny reading comprehension score was 10.1 and vocabulary was 12.7.

KOH, SOON D.; MARUSARZ, THADDEUS Z.; & ROSEN, ALEXANDER, J. Remembering of sentences by schizophrenic young adults. *Journal of Abnormal Psychology*, April 1980, 89, 291-294.

Examines the sentence-memory capabilities of 15 schizophrenic patients and 15 normals in an effort to substantiate a body of research that had found schizophrenics deficient in word-list memory because of inefficient semantic encoding ability. Groups were comparable in terms of years of education, vocabulary level, and socioeconomic levels. In the first session, schizophrenic patients were poorer than normals in the free recall of short sentences. In the second session, subjects attempted to unscramble sentences and later recall them. Compared with normals, schizophrenics revealed no significant deficit in either total or cued recall. The researchers contended that schizophrenics' performance can be enhanced if a syntactic-semantic encoding operation can be induced.

POGUE-GEILE, MICHAEL F., & OLTMANNS, THOMAS F. Sentence perception and distractibility in schizophrenic, manic, and depressed patients. *Journal of Abnormal Psychology*, April 1980, 89, 115-124.

Explores the effect of distraction on the information processing of schizophrenics in a dichotic listening task. Eight adult schizophrenics, manics, depressives, and normal subjects ($N = 32$) were asked to shadow (repeat aloud) short stories in both the presence and absence of competing messages, and to answer questions about the content. The shadowing performance of the three patient groups was equivalent to the normals and not affected by distraction. Shadowing errors of commission (inaccurate production) indicated that schizophrenics did use semantic and syntactic information to anticipate words in the relevant message, but that the schizophrenics inserted more semantically irrelevant words than did the other three groups. Distraction did interfere with the schizophrenics' ability to recall the content of passages, but did not interfere with the other three groups' recall. The researchers indicated that distraction may have a specific rather than general influence on information processing or that distraction may reduce schizophrenics' overall capacity to handle information in short-term memory.

CLEMMER, EDWARD J. Psycholinguistic aspects of pauses and temporal patterns in schizophrenic speech. *Journal of Psycholinguistic Research*, March 1980, 9, 161-185.

Investigates the cognitive processes that differentiate schizophrenic and normal speech by analyzing tape recordings of oral reading and story retellings. Twenty hospitalized adult schizophrenics ($M = 10$; $F = 10$) were matched with 20 normal volunteers on the basis of race, sex, age, and educational level. Subjects read an ordinary version as well as an unusual version (an unexpected event occurred in the middle sentence) of two stories. Silent pauses (duration, frequency, and location), utterances (duration and syllable lengths, speech and articulation rates), and spoken hesitations (frequency and syllable lengths) were measured. The mean duration of silent pauses differentiated normals from schizophrenics during reading. Spoken hesitations in retelling were, as expected, the least for normals retelling an ordinary version of a story. Retellings by normals of the unusual version were analogous to the schizophrenic condition.

MEFFERD, ROY B., JR. Word association: capacity of chronic schizophrenics to follow formal semantic, syntactic, and instructional rules. *Psychological Reports*, October 1979, 45, 431-442.

Examines the ability of chronic schizophrenics to utilize formal semantic and syntactic rules in word association tasks. Experimental subjects were 50 para-

noid and delusional schizophrenics and 50 simple and undifferentiated schizophrenics matched on age, education, and WAIS-IQ score with 100 controls. The words were taken from a pool of 500 ambiguous words. Subjects had two tasks: 1) to give an association after the word was given and 2) then repeat (after completing the 24 word experimental block) the word association reported when the stimulus word was given. Five types of faults, three levels of semantic responding and grammatical form were scored for each response. There were no significant differences in word associations between the two types of schizophrenics. Qualitatively, the controls and schizophrenics had similar aberrant or faulting behavior, but the schizophrenics gave significantly more of three kinds of faults. Expressed on the basis of percentage of scorable responses, the qualitative nature of the non-faulted response patterns of the controls and of either paranoid or simple chronic schizophrenics were indistinguishable. Schizophrenics had intact associative structure that appeared to be organized and used in the same way as with the controls.

YOUNG, MARTIN A. Comparison of stuttering frequencies during reading and speaking. *Journal of Speech and Hearing Research*, March 1980, 23, 216-217.

Reexamines earlier published and unpublished data and concludes that the discrepancy in disfluency frequency of moderate-to-severe stutterers when speaking and reading orally is largely accounted for by a smaller frequency of word repetitions and interjections during reading, but this discrepancy diminishes with higher levels of disfluency. Because of problems in the manner in which the data were treated, the author recommends that another sample of speakers should be tested to determine if the relationship between speaking and reading holds for individuals.

WOOD, FRANK; STUMP, DAVID; MCKEEHAN, ANN; SHELDON, SANDRA; & PROCTOR, JAMES. Patterns of regional cerebral blood flow during attempted reading aloud by stutterers both on and off haloperidol medication: evidence for inadequate left frontal activation during stuttering. *Brain and Language*, January 1980, 9, 141-144.

Subjects two stutterers, both recent college graduates, to regional cerebral blood flow measurements while attempting to read aloud. Each received two measurements, one of which was under the influence of haloperidol, 3 mg. daily. Both subjects showed improvement on medication, allowing a stuttering versus essentially no stuttering comparison for each subject. Both subjects showed higher Broca's area flow in the right compared to the left hemisphere during stuttering. Both showed higher Wernicke's area flow in the left compared to the right hemisphere, however, during stuttering. During reading aloud without stuttering, the Broca's area flows were reversed, now showing a left hemisphere advantage. The results were interpreted as consistent with the proposal that stutterers exhibit conventional left cerebral dominance for speech reception, but inadequate left cerebral dominance for speech production.

WILSON, RICHARD H., & ANTABLIN, JUNE K. A picture identification task as an estimate of the word-recognition performance of nonverbal adults. *Journal of Speech and Hearing Disorders*, May 1980, 45, 223-238.

Establishes the normative performance data on the *Picture Identification Task*, developed to estimate the word-recognition performance of nonverbal adults, and compares those data with an established word-recognition test in two experiments. Four lists of 50 monosyllabic words were developed. These test words and three rhyming alternatives were illustrated and subjects were asked to point to the picture representing the word presented through an earphone. In Experiment 1

with 16 young adults, no significant differences were found between the Picture Identification Task and the test of word recognition when subjects were asked to write their responses. Experiment 2 required that the 24 adult subjects point to the word on the Picture Identification Test and both write the appropriate word and mark multiple choice answer sheets for responses to the word recognition test. There were significant differences among the three response tasks. The easiest task was the closed-set response to words (identification); the next was a closed-set response to pictures, and the most difficult was an open-set (written) response. However, at high stimulus presentation levels, the three tasks produced similar results. Results of clinical use of the task are also described and preliminary results with 30 patients are presented.

KERTESZ, ANDREW. Visual agnosia: the dual deficit of perception and recognition. *Cortex*, September 1979, 15, 403-419.

Describes in specific detail one 41-year-old female who, as a result of an automobile accident, suffers visual agnosia (inability to recognize objects visually, yet able to give an immediate and accurate response when touching or hearing the same stimulus). The patient had a stable dual deficit, that is, she suffered both apperceptive and associative visual agnosia. Her performance on over 20 tests was reported, including letter naming and reading tasks. The subject had alexia without agraphia. The stages of recognition were analyzed through the case, and the importance of memory in perception was highlighted.

LOVELACE, TERRY. Enhancing the lives of nursing home patients through reading activities. In Laura S. Johnson (Ed.) *Reading and the Adult Learner*. Newark, Delaware: International Reading Association, 1980, pp. 7-12.

Investigates the use of reading activities in the enhancement of lives of two groups of nursing home patients ($N = 16$). Each group met 45 minutes weekly to discuss short stories that were read aloud to them. Reactions were described, as well as the sex, age, physical and mental disabilities of the participants.

Journals Monitored for the Annual Summary

- Abstracts of English Studies
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 Adult Education (American)
 Adult Education (British-NIAE)
 Action Teacher Education
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 Alberta Journal of Educational Research
 American Annals of the Deaf
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